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TRAINING OF PHYSICIANS, DENTISTS, AND PROFESSIONAL PUBLIC HEALTH PERSONNEL

HEARINGS

BEFORE THE

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE HOUSE OF REPRESENTATIVES

EIGHTY-SEVENTH CONGRESS

SECOND SESSION

ON

H.R. 4999, H.R. 8774, and H.R. 8833

BILLS TO INCREASE THE OPPORTUNITIES FOR TRAINING OF PHYSICIANS, DENTISTS, AND PROFESSIONAL PUBLIC HEALTH PERSONNEL, AND FOR OTHER PURPOSES

JANUARY 23, 24, 25, 26, AND 30, 1962

Printed for the use of the
Committee on Interstate and Foreign Commerce

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TRAINING OF PHYSICIANS, DENTISTS, AND PROFESSIONAL PUBLIC HEALTH PERSONNEL

TUESDAY, JANUARY 23, 1962

House of Representatives,
Committee on Interstate and Foreign Commerce,
Washington, D.C.

The committee met at 10 a.m., pursuant to call, in room 1334, New House Office Building, Hon. Oren Harris (chairman of the committee) presiding.

The Chairman. The committee will come to order.

This morning the committee begins hearings on a most important piece of legislation, on a bill, H.R. 4999, which I introduced at the request of the President transmitted through the Secretary of Health, Education, and Welfare. Identical bills have been introduced by our colleague from West Virginia, a member of this committee, Mr. Staggers, H.R. 8774, and the gentleman from Florida, Mr. Bennett, H.R. 8833.

I might interpolate that our colleague from Alabama, Mr. Andrews, has a bill which he has just called to my attention that is related to this subject, and I think during the course of the hearings we should include it and give an opportunity for him to appear and the party that he desires to be heard, who, I believe, is Dr. Anderson, vice president of Auburn University.

The committee wishes to explore every aspect connected with this general subject at this time, although I would like to emphasize that the administration's proposal provides Federal assistance for the construction of medical and dental schools, as well as osteopathic schools, together with scholarships for students at these schools.

The bills are designed to increase opportunities for training physicians, dentists, and other professional health personnel and to provide for (1) grants for the construction of medical, dental, osteopathic, and public health teaching facilities; (2) medical, osteopathic, and dental scholarship grants; (3) extension and strengthening of the research facilities construction grant program.

A related health bill recommended by President Kennedy which I introduced at his request, H.R. 4998, and which is designed to expand community facilities and services for the health care of the aged and other persons, has already been enacted by the Congress. It is now Public Law 87-395, approved September 20, 1961. That law extended the health research facilities program until June 30, 1963, in order to give this Congress an opportunity in the meantime to take a fresh look at the adequacy of that program. Since the cutoff date for the filing of applications under that program is June 30, 1962, it is of vital importance that Congress take action at this session

on legislation designed to extend, and, if necessary, to modify this program. It will be the purpose of these hearings, therefore, to explore both the need for a new program aimed at teaching facilities and scholarships, and the need for the extension and modification of an existing program dealing with health research facilities.

This is not the first time that this committee is holding hearings on these two important subjects. As a matter of fact, it would be possible for me to spend the better part of this morning's hearings with a recital of the legislative histories of bills intended to provide Federal support in one way or another for the construction of medical and dental school teaching facilities, for the support of medical and dental school operations, and for assistance to students who study medicine or dentistry.

During the 81st Congress, the Senate passed legislation providing for a 5-year emergency program of Federal aid to training in the principal health professions which included operational subsidies, scholarship aid, and aid for the construction of teaching facilities. Our committee held hearings and reported favorably a bill similar to the one passed by the Senate. However, the Rules Committee failed to grant a rule clearing it for consideration by the House.

During the 84th Congress, hearings were held by this committee on bills much more limited in scope than those considered during the 81st Congress. However, while legislation resulted in providing Federal aid for the construction of health research facilities, no action was taken on proposals to extend such aid for the construction of teaching facilities.

At that time, the committee directed its professional staff—

to gather all possible information bearing on the subject of Federal aid to medical schools and report to the committee early in the next Congress.

This was done, and the committee print entitled "Medical School Inquiry" resulted from this study. I suggest that each member of the committee get a copy of it and have it available in case you do not already have it. I understand that there is a constant demand for this staff report and that it has become one of the standard reference works in this field.

Do we have other copies of it, Mr. Clerk?

The CLERK. Yes, sir.

The CHAIRMAN. I think it would be a good idea to have copies available for members in case they care to refer to it.

I do know that there is constant demand for this staff report, and the staff is to be complimented for it.

During the 85th Congress, hearings which were held by this committee on the two subjects of Federal aid for the construction of teaching facilities and research facilities resulted only in the extension of the research facilities program.

This brief recital of the legislative history of earlier bills dealing with Federal aid to medical and dental schools indicates the highly controversial nature of legislative proposals aimed at extending Federal aid for teaching as distinguished from Federal aid for research.

I would like to state right at the beginning of these hearings that I am entering into the consideration of these bills with an open mind. The long history of failures of previous efforts to enact legislation to aid in the construction of medical and dental school teaching facil-

ities prompts me to state for the record that the burden is on the witnesses who are appearing in support of these proposals to make it abundantly clear that such a program is needed in the best interests of the American people.

It goes without saying that such a program stands to benefit medical and dental schools and that they can probably make good use of any funds which may be offered to them. That is not enough, however, and the burden is on the proponents that such a program of Federal aid is absolutely indispensable if the health needs of the American people are to be met.

This is not only directed at the Secretary, who will be the first witness this morning, but to those groups and organizations who have advised me and the committee of their interest in and support of the legislation. Particularly this interest comes, of course, from persons connected with medical colleges and universities through the country.

At this point I will place in the record a copy of H.R. 4999, along with reports received from executive departments and agencies.

(The bill, H.R. 4999, and reports mentioned above, follow herewith:)

[H.R. 4999, 87th Cong., 1st sess.]

A BILL To increase the opportunities for training of physicians, dentists, and professional public health personnel, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Health Professions Educational Assistance Act of 1961".

GRANTS FOR CONSTRUCTION OF MEDICAL, DENTAL, OSTEOPATHIC, AND PUBLIC HEALTH TEACHING FACILITIES

SEC. 2. (a) Title VII of the Public Health Service Act (42 U.S.C. chap. 6A) is amended by inserting "AND TEACHING" after "RESEARCH" in the heading thereof, by inserting "AND TRAINING OF PROFESSIONAL HEALTH PERSONNEL" after "FACILITIES" in such heading, and by inserting immediately below such heading "PART A—GRANTS FOR CONSTRUCTION OF HEALTH RESEARCH FACILITIES", and by changing the words "this title" wherever they appear in such title to read "this part".

(b) Such title is further amended by adding at the end thereof the following:

"PART B—GRANTS FOR CONSTRUCTION OF MEDICAL, DENTAL, OSTEOPATHIC, AND PUBLIC HEALTH TEACHING FACILITIES

"AUTHORIZATION OF APPROPRIATIONS

"SEC. 720. There are hereby authorized to be appropriated for each fiscal year in the period beginning July 1, 1961, and ending June 30, 1971, (1) not to exceed $45,000,000 for grants to assist in the construction of new teaching facilities for the training of physicians or professional public health personnel, (2) not to exceed $15,000,000 for grants to assist in the construction of new teaching facilities for the training of dentists, and (3) not to exceed $15,000,000 for replacement or rehabilitation of existing teaching facilities for the training of physicians, professional public health personnel, or dentists.

"APPROVAL OF APPLICATIONS

"SEC. 721. (a) No application for a grant under this part may be approved unless it is submitted to the Surgeon General prior to July 1, 1970.

"(b) To be eligible to apply for a grant to assist in the construction of any facility under this part, the applicant must be (1) a public or other nonprofit school of medicine, dentistry, osteopathy, or public health and (2) accredited by a recognized body or bodies approved for such purpose by the Commissioner of Education, except that a new school which (by reason of no, or an insufficient, period of operation) is not, at the time of application for a grant to construct

a facility under this part, eligible for accreditation by such a recognized body or bodies, shall be deemed accredited for purposes of this part if the Commissioner of Education finds, after consultation with the appropriate accreditation body or bodies, that there is reasonable assurance that the school will, upon completion of such facility, meet the accreditation standards of such body or bodies.

"(c) A grant under this part may be made only if the application therefor is approved by the Surgeon General upon his determination that—

"(1) the applicant meets the eligibility conditions set forth in subsection (b);

"(2) the application contains or is supported by reasonable assurances that (A) for not less than ten years after completion of construction, the facility will be used for the purposes of the teaching for which it is to be constructed, (B) sufficient funds will be available to meet the non-Federal share of the cost of constructing the facility, and (C) sufficient funds will be available, when construction is completed, for effective use of the facility for the training for which it is being constructed;

"(3) (A) in the case of an application for a grant from funds appropriated pursuant to clause (1) of section 720, such application is for aid in the construction of a new school of medicine, osteopathy, or public health, or construction which will expand the training capacity of an existing such school, (B) in the case of an application for a grant from funds appropriated pursuant to clause (2) of such section, such application is for aid in the construction of a new school of dentistry or construction which will expand the capacity of an existing school of dentistry, or (C) in the case of an application for a grant from funds appropriated pursuant to clause (3) of such section, such application is for aid in construction which will replace or rehabilitate facilities of an existing school of medicine, dentistry, osteopathy, or public health which are so obsolete as to require the school to curtail substantially either its enrollment or the quality of the training provided;

"(4) the plans and specifications are in accordance with regulations relating to minimum standards of construction and equipment;

"(5) the application contains or is supported by adequate assurance that any laborer or mechanic employed by any contractor or subcontractors in the performance of work on the construction of the facility (A) will be paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a–276a5), and (B) will receive compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in any workweek in excess of eight hours in any workday or forty hours in the workweek. The Secretary of Labor shall have, with respect to the labor standards specified in this paragraph, the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (15 F.R. 3176; 64 Stat. 1267), and section 2 of the Act of June 13, 1934, as amended (40 U.S.C. 276c); and

"(6) if the application requests aid in construction of a facility which is a hospital or diagnostic or treatment center, as defined in section 631, an application with respect thereto has been filed under title VI and has been denied thereunder because (A) the project has no or insufficient priority, or (B) funds are not available for the project from the State's allotments under title VI.

Before approving or disapproving an application under this part, the Surgeon General shall secure the advice of the National Advisory Council on Education for Health Professions established by section 725 (hereinafter in this part referred to as the 'Council').

"(d) In considering applications for grants, the Council and the Surgeon General shall take into account—

"(1) (A) in the case of a project for a new school or for expansion of the facilities of an existing school, the relative effectiveness of the proposed facilities in expanding the capacity for the training of first-year students of medicine, dentistry, or osteopathy (or, in the case of a two-year school which is expanding to a four-year school, expanding the capacity for four-year training of students in the field), or for the training of professional public health personnel, and in promoting an equitable geographical distribution of opportunities for such training (giving due consideration to popula-

tion, available physicians, dentists, or professional public health personnel, and available resources in various areas of the Nation for training such persons); or

"(B) in the case of a project for replacement or rehabilitation of existing facilities of a school, the relative need for such replacement or rehabilitation to prevent curtailment of the school's enrollment or deterioration of the quality of the training provided by the school, and the relative size of any such curtailment and its effect on the geographical distribution of opportunities for training (giving consideration to the factors mentioned above in paragraph (1)); and

"(2) in the case of an applicant in a State which has in existence a State planning agency, or which participates in a regional or other interstate planning agency, described in section 728, the relationship of the application to the construction or training program which is being developed by such agency with respect to such State and, if such agency has reviewed such application, any comment thereon submitted by such agency.

"AMOUNT OF GRANT; PAYMENTS

"SEC. 722. (a) The amount of any grant under this part shall be that recommended by the Council or such lesser amount as the Surgeon General determines to be appropriate; except that (1) in the case of a grant for a project for a new school, and in the case of a grant for new facilities for an existing school in cases where such facilities are of particular importance in providing a major expansion of training capacity, as determined in accordance with regulations, such amount may not exceed 66⅔ per centum of the necessary cost of construction, as determined by the Surgeon General, of such project; and (2) in the case of any other grant, such amount may not exceed 50 per centum of the necessary cost of construction, as so determined, of the project with respect to which the grant is made.

"(b) Upon approval of any application for a grant under this part, the Surgeon General shall reserve, from any appropriation available therefor, the amount of such grant as determined under subsection (a); the amount so reserved may be paid in advance or by way of reimbursement, and in such installments consistent with construction progress, as the Surgeon General may determine. The Surgeon General's reservation of any amount under this section may be amended by him, either upon approval of an amendment of the application or upon revision of the estimated cost of construction of the facility.

"(c) In determining the amount of any grant under this part, there shall be excluded from the cost of construction an amount equal to the sum of (1) the amount of any other Federal grant which the applicant has obtained, or is assured of obtaining, with respect to the construction which is to be financed in part by grants authorized under this part, and (2) the amount of any non-Federal funds required to be expended as a condition of such other Federal grant.

"RECAPTURE OF PAYMENTS

"SEC. 723. If, within ten years after completion of any construction for which funds have been paid under this part—

"(a) the applicant or other owner of the facility shall cease to be a public or nonprofit school, or

"(b) the facility shall cease to be used for the teaching purposes for which it was constructed (unless the Surgeon General determines, in accordance with regulations, that there is good cause for releasing the applicant or other owner from the obligation to do so),

the United States shall be entitled to recover from the applicant or other owner of the facility the amount bearing the same ratio to the then value (as determined by agreement of the parties or by action brought in the United States district court for the district in which such facility is situated) of the facility, as the amount of the Federal participation bore to the cost of construction of such facility.

"DEFINITIONS

"SEC. 724. As used in this part—

"(1) The terms 'construction' and 'cost of construction' include (A) the construction of new buildings, the expansion of existing buildings, and remodeling, replacement, renovation, major repair (to the extent permitted by regulations),

or alternation of existing buildings, including architects' fees, but not including the cost of acquisition of land or off-site improvements, and (B) initial equipment of new buildings and of the expanded, remodeled, repaired, renovated, or altered part of existing buildings;

"(2) The term 'nonprofit school' means a school owned and operated by one or more corporations or associations no part of the net earnings of which inures, or many lawfully inure, to the benefit of any private shareholder or individual; and

"(3) The terms 'school of medicine', 'school of dentistry', 'school of osteopathy', and 'school of public health' mean a school which provides training leading, respectively, to a degree of doctor of medicine, a degree of doctor of dentistry or an equivalent degree, a degree of doctor of osteopathy, and a graduate degree in public health.

"NATIONAL ADVISORY COUNCIL ON EDUCATION FOR HEALTH PROFESSIONS

"SEC. 725. (a) There is hereby established in the Public Health Service a National Advisory Council on Education for Health Professions, consisting of the Surgeon General of the Public Health Service, who shall be Chairman, and the Commissioner of Education, both of whom shall be ex officio members, and twelve members appointed by the Secretary without regard to the civil service laws. Four of the appointed members shall be selected from the general public and eight shall be selected from among leading authorities in the fields of higher education, at least four of whom are particularly concerned with training in medicine, dentistry, osteopathy, or the public health professions. In selecting persons for appointment to the Council, consideration shall be given to such factors, among others, as (1) experience in the planning, constructing, financing, or administration of schools of medicine, dentistry, or osteopathy, or schools of public health, and (2) familiarity with the need for teaching facilities in all areas of the Nation.

"(b) The Council shall advise and assist the Surgeon General in the preparation of general regulations and with respect to policy matters arising in the administration of this part and part C, and in the review of applications thereunder.

"(c) The Surgeon General is authorized to use the services of any member or members of the Council in connection with matters related to the administration of this part, for such periods, in addition to conference periods, as he may determine. The Surgeon General shall, in addition, make appropriate provision for consultation between and coordination of the work of the Council and the National Advisory Council on Health Research Facilities with respect to matters bearing on the purposes and administration of this part and part C.

"(d) Appointed members of the Council, while attending conferences or meetings of the Council or while otherwise serving at the request of the Surgeon General, shall be entitled to receive compensation at a rate to be fixed by the Secretary but not exceeding $50 per diem, including travel time, and while away from their homes or regular places of business they may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by law (5 U.S.C. 73b-2) for persons in the Government service employed intermittently.

"NONINTERFERENCE WITH ADMINISTRATION OF INSTITUTIONS

"SEC. 726. Nothing contained in this part shall be construed as authorizing any department, agency, officer, or employee of the United States to exercise any direction, supervision, or control over, or impose any requirement or condition with respect to, the personnel, curriculum, methods of instruction, or administration of any institution.

"REGULATIONS

"SEC. 727. (a) The Surgeon General, after consultation with the Council and with the approval of the Secretary, shall prescribe general regulations for this part covering the eligibility of institutions, the order of priority in approving application, the terms and conditions for approving applications, determinations of the amounts of grants, and minimum standards of construction and equipment for various types of institutions.

"(b) The Surgeon General is authorized to make, with the approval of the Secretary, such other regulations as he finds necessary to carry out the provisions of this part.

"TECHNICAL ASSISTANCE

"SEC. 728. In carrying out the purposes of this part, and to further the development of State, or joint or coordinated regional or other interstate, planning or programs for relieving shortages of training capacity in the fields of medicine, dentistry, osteopathy, and public health, through constructing teaching facilities, providing adequate financial support for schools, or otherwise, the Surgeon General is authorized to provide technical assistance and consultative services to State or interstate planning agencies established for any of such purposes.

"PLANNING GRANTS FOR MEDICAL, OSTEOPATHIC, DENTAL, OR PROFESSIONAL PUBLIC HEALTH EDUCATION PROGRAMS

"SEC. 729. There is hereby authorized to be appropriated for each fiscal year in the period beginning July 1, 1961, and ending June 30, 1971, the sum of $500,000 to enable the Surgeon General to make grants to regional, interstate, State, or local public or private nonprofit agencies and organizations and to any public or private nonprofit institution for planning and determining the need for teaching facilities for, or otherwise planning a new, expanded, or improved program of, training physicians, professional public health personnel, or dentists.

"PART C—SCHOLARSHIP GRANTS TO SCHOOLS OF MEDICINE, OSTEOPATHY, OR DENTISTRY

"SCHOLARSHIP GRANTS

"SEC. 740. (a) The Surgeon General shall make grants to each public or other nonprofit school of medicine, osteopathy, or dentistry (as defined in section 724), which is accredited as provided in section 721(b)(2), for scholarships to be awarded annually by such school to students thereof.

"(b) The amount of the grant under subsection (a) to each such school shall be equal to $1,500 multiplied by (1) for the fiscal year ending June 30, 1962, one-fourth of the number of first-year students of such school; (2) for the fiscal year ending June 30, 1963, one-fourth of the number of first-year students and second-year students of such school; (3) for the fiscal year ending June 30, 1964, one-fourth of the number of first-year students, second-year students, and third-year students of such school; and (4) for each fiscal year thereafter, one-fourth of the number of students of such school.

"(c)(1) Scholarships may be awarded by schools from grants under subsection (a) only to individuals who have been accepted by them for enrollment as full-time first-year students in the case of awards from grants under subsection (a) for the fiscal year ending June 30, 1962; only to individuals who have been so accepted and individuals enrolled and in good standing as full-time second-year students in the case of such awards from such grants for the fiscal year ending June 30, 1963; and only to individuals so accepted or enrolled and individuals enrolled and in good standing as full-time third-year students in the case of such awards from such grants for the fiscal year ending June 30, 1964; and thereafter only to individuals who have been so accepted and individuals who are enrolled as full-time students in the school.

"(2) Scholarships awarded from grants under subsection (a) for any school year shall be awarded to talented students on the basis of need for financial assistance in pursuing a course of study at the school for such year. Any such scholarship awarded for a school year shall cover such portion of the student's tuition, fees, books, equipment, and living expenses at the school making the award, but not to exceed $2,000 for any year, as such school may determine the student needs for such year on the basis of his requirements and financial resources.

"(d) The Surgeon General shall also make cost of education payments to schools which receive grants under subsection (a). Such payments to any school for a year shall be equal to $1,000 for each of its students who is awarded a scholarship from a grant under subsection (a) for such year, but not in excess of the number of students determined for such school for such year under clause (1), (2), (3), or (4), as the case may be, of subsection (b).

"(e) Grants under subsection (a) and payments under subsection (d) shall be made in accordance with regulations prescribed after consultation with the National Advisory Council on Education for the Health Professions (established by section 725). Such regulations shall include provisions relating to

determination, for purposes of grants or payments for a fiscal year, of the number of students enrolled in a particular year-class on the basis of estimates, or on the basis of the number in such year-class in an earlier year, or on such other basis as he deems appropriate for making such determination, and including methods of making such determination when a year-class was not in existence in an earlier year at a school.

"(f) Grants under subsection (a) and payments under subsection (d) may be paid in advance or by way of reimbursement, and at such intervals as the Surgeon General may find necessary; and with appropriate adjustments on account of overpayments or underpayments previously made."

EXTENSION AND EXPANSION OF RESEARCH FACILITIES GRANTS

SEC. 3. (a) Effective with respect to appropriations for fiscal years beginning after June 30, 1962, section 704 of the Public Health Service Act is amended by striking out "$30,000,000" and inserting in lieu thereof "$50,000,000". Such section is further amended by striking out "five succeeding fiscal years" and inserting in lieu thereof "eight succeeding fiscal years".

(b) Section 705(a) of such Acts is amended by striking out "June 30, 1961" and inserting in lieu thereof "June 30, 1964".

(c) Section 706(a) of such Act is amended by striking out ", or in the case of a multipurpose facility," and inserting in lieu thereof "in the case of a facility which the Surgeon General determines is to be used for research, or research and purposes related thereto (including research training), in the sciences related to health or, in the case of any other multipurpose facility,".

(d) Sections 704 and 705(c)(2) of such Act are each amended by inserting ", or research and related purposes," after "research", wherever it appears therein. Section 705(e) of such Act is amended by inserting ", or research and related purposes," after "research" the first time it appears therein and inserting "or related purposes" after "research" the second time it appears therein. Section 707(b) of such Act is amended by inserting ", or research and related purposes," after "research purposes". Section 706(a) of such Act is amended by striking out "facility for research" and inserting in lieu thereof "facility for research, or research and related purposes,". Section 708 of such Act is amended by inserting "or related purposes" after "research".

(e) Section 705(c) of such Act is further amended by striking out "and" at the end of paragraph (2), by striking out the period at the end of paragraph (3) and inserting in lieu thereof "; and", and by adding after paragraph (3) the following new paragraph:

"(4) the application contains or is supported by adequate assurance that any laborer or mechanic employed by any contractor or subcontractor in the performance of work on the construction of the facility (A) will be paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a–276a5), and (B) will receive compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in any workweek in excess of eight hours in any workday or forty hours in the workweek. The Secretary of Labor shall have, with respect to the labor standards specified in this paragraph, the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (15 F.R. 3176; 64 Stat. 1267), and section 2 of the Act of June 13, 1934, as amended (40 U.S.C. 276c)."

(f) Part A of title VII of such Act is further amended by inserting after section 710 the following new sections:

"TECHNICAL ASSISTANCE

"SEC. 711. The Surgeon General is authorized to provide assistance to applicants under this part, and other public or nonprofit institutions engaging or competent to engage in research, or research and related purposes, in the sciences related to health, in designing and planning the construction of facilities for the conduct of such research or research training.

"CONSTRUCTION OF REGIONAL FACILITIES

"SEC. 712. When the Surgeon General finds, in accordance with regulations, that the purposes of this part can best be achieved through the construction

of research, or research and related purposes, facilities of particular value or significance for the Nation or a region thereof, and that because of the cost of such facilities or their use as a national or regional resource for research or related purposes a grant pursuant to the preceding provisions of this part does not provide an effective or appropriate means of financing the construction of such facilities, he may construct or make arrangements for constructing, through contracts for paying (including advance or installment payments) part or all of the cost of construction or otherwise, facilities for the conduct of research, or for research and related purposes, in the sciences related to health. The Surgeon General may, where he deems such action appropriate, make arrangements, by contract or otherwise, for the operation of such facilities (for the conduct of such research, or research and related purposes) or may make contributions toward the cost of such operation of facilities of this nature whether or not constructed pursuant to, or with aid provided under, this section. Title to any facility constructed under this section may be transferred by the Surgeon General on behalf of the United States to any public or nonprofit private institution competent to engage in the type of research, or research and related purposes, for which the facility was constructed. Such transfer shall be made subject to the condition that the facility will be operated for the research, or research and related purposes, for which it was constructed and to such other conditions as the Surgeon General deems necessary to carry out the objectives of this part and to protect the interests of the United States."

(g) The parenthetical phrase in the first sentence of section 433 (a) of such Act which reads "(including grants-in-aid for drawing plans, erection of buildings, and acquisition of land therefor)" is repealed.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
Washington, January 23, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in reply to your request of March 16, 1961, for a report on H.R. 4999, a bill to increase the opportunities for training of physicians, dentists, and professional public health personnel, and for other purposes.

The bill was prepared by this Department and carries out the President's recommendations for aid to education for the health professions and for extension of research facilities, set forth in his health message of February 9, 1961.

The bill provides for: (1) grants for construction, renovation, and planning of medical, dental, osteopathic, and public health teaching facilities; (2) grants to medical, osteopathic, and dental scholos for student scholarships, together with grants to schools participating in the scholarship program to assist in meeting the costs of instruction of these students; and (3) extension and strengthening of the research facilities construction grant program.

Enclosed for your reference is a copy of our letter transmitting the proposed bill to the President, which summarizes the principal provisions of the bill.

Because of the lapse of time since its introduction, the bill will require technical amendments of the various provisions in which specific dates are mentioned.

In addition, you will note that section 3 of the bill contains several provisions which were enacted in whole, or part, last October as part of the Community Health Services and Facilities Act of 1961 (Public Law 87-395). Appropriate adjustments will, therefore, need to be made in the provisions of that section. In response to your specific request of January 9, 1962, we are submitting with our testimony on H.R. 4999 a revision of section 3 which incorporates the technical changes necessary to bring our proposal up to date.

We, of course, strongly endorse the bill and urge its immediate passage.

Sincerely yours,

ABRAHAM RIBICOFF,
Secretary.

80014—62——2

COMPTROLLER GENERAL OF THE UNITED STATES,
Washington, January 26, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce, House of Representatives.

DEAR MR. CHAIRMAN: Your letter of January 9, 1962, acknowledged January 11, requests our comments on H.R. 4999.

This bill, which is identical with H.R. 8774, H.R. 8833, and S. 1072 of the same Congress, would provide grants-in-aid for construction of medical, dental, osteopathic and public health teaching facilities, as well as scholarship grants to schools of medicine, dentistry and osteopathy to be awarded by such schools to the students thereof. We have no special information as to the need for or desirability of the proposed legislation and, consequently, we have no recommendations to make on its merits. We do, however, have some comments which we offer for consideration of your committee.

The bill would provide additional grant programs to be administered by the Public Health Service. No provision is made in the bill nor in legislation applicable to other grant programs now authorized by the Public Health Service Act, as amended, to require a grantee to keep adequate cost records of the projects or undertakings to which the Federal Government makes financial contributions, or to authorize the Surgeon General or the Comptroller General to have access to the grantee's records for purposes of audit and examination. In view of the increase in grant programs over the last several years, we believe that in order to determine whether grant funds have been expended for the purpose for which the grant was made, the grantee should be required by law to keep records which would fully disclose the disposition of such funds. We also believe that the agency as well as the General Accounting Office should be permitted to have access to the grantee's records for the purpose of audit and examination. We therefore suggest that consideration be given to amending the bill to include such requirements with respect to the proposed new programs, or preferably by an amendment of the Public Health Service Act to cover all grant programs therein authorized. The latter could be accomplished by the following language:

"RECORDS AND AUDIT

"(a) Each recipient of assistance under this Act shall keep such records as the Surgeon General shall prescribe, including records which fully disclose the amount and disposition by recipient of the proceeds of such grants, the total cost of the project or undertaking in connection with which such funds are given or used, and the amount of that portion of the cost of the project or undertaking supplied by other sources, and such other records as will facilitate an effective audit.

"(b) The Secretary of Health, Education, and Welfare and the Comptroller General of the United States or any of their duly authorized representatives shall have access for the purpose of audit and examination to any books, documents, papers, and records of the recipients that are pertinent to the grants received under this Act."

Language similar to that suggested above is contained in H.R. 132, 87th Congress, reported by your committee August 21, 1961, and in section 25 of the Area Redevelopment Act, Public Law 87-27, approved May 1, 1961.

Attention is invited to the provisions of section 3(a) (b) (c) (d) and (g) of the bill. We note that these provisions have already been enacted by sections 7 and 8 of the Community Health Services and Facilities Act of 1961, Public Law 87-395, approved October 5, 1961, in identical or almost identical form. It would appear that some correction or deletion of these provisions of the bill should be made.

We have no other comments or recommendations with respect to the bill.

Sincerely yours,

JOSEPH CAMPBELL,
Comptroller General of the United States.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., April 7, 1961.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

MY DEAR MR. CHAIRMAN: This is in reply to your letter of March 16, 1961, requesting the views of the Bureau of the Budget on H.R. 4999, a bill to increase the opportunities for training of physicians, dentists, and professional public health personnel, and for other purposes.

This bill provides a 10-year program of grants for the construction of medical, dental, osteopathic, and public health teaching facilities; a program of medical, osteopathic, and dental scholarship grants to enable a larger number of qualified students to meet the high cost of education in these fields; and the extension and expansion of the health research facilities construction grant program.

The bill would carry out the recommendations contained in the President's health message "* * * to stimulate and assist in the establishment and expansion of medical and dental schools, and to help more talented but needy students to enter the health professions while bolstering the quality of their training." I am authorized to advise you that the enactment of H.R. 4999 would be in accord with the program of the President.

Sincerely yours,

PHILLIP S. HUGHES,
Assistant Director for Legislative Reference.

U.S. DEPARTMENT OF LABOR,
OFFICE OF THE SECRETARY,
Washington, May 2½, 1961.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR CONGRESSMAN HARRIS: This is in reply to your recent requests for the views of the Department of Labor concerning H.R. 4999, H.R. 4226, and H.R. 2414, three bills which would increase the number of doctors and dentists by providing Federal financial assistance for the construction of medical and dental teaching facilities and also for scholarships for medical and dental students.

Of the three measures under consideration, we believe that H.R. 4999 is the most responsive to our Nation's increased need for well trained medical personnel as outlined by the President in his recent special health message to the Congress. Moreover, from the standpoint of the particular responsibilities of the Department of Labor, we find that only H.R. 4999 contains adequate labor standards requirements for the construction projects contemplated under its provisions. These requirements are in accord with established policy that construction work assisted by Federal grants of this nature should be made subject to proviions ensuring protection of the labor standards of laborers and mechanics employed thereon.

In view of these considerations we would refer the enactment of H.R. 4999 rather than H.R. 4226 or H.R. 2414.

The Bureau of the Budget advises that there is no objection to the presentation of this report from the standpoint of the administration's program and that enactment of H.R. 4999 would be in accord with the President's program.

Yours sincerely,

ARTHUR J. GOLDBERG,
Secretary of Labor.

U.S. DEPARTMENT OF LABOR,
OFFICE OF THE SOLICITOR,
Washington, January 10, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR CONGRESSMAN HARRIS: Thank you for the notice of public hearings to be held by the Committee on Interstate and Foreign Commerce on January 23, 24, 25, and 26, 1962, concerning H.R. 4999, H.R. 8774, and H.R. 8833, bills cited as the "Health Professions Educational Assistance Act."

As you know, under date of May 24, 1961, the Department submitted to your committee a report on H.R. 4999 and other bills which would provide Federal financial assistance for the construction of medical and dental teaching facilities and scholarships for medical and dental students. We would appreciate your considering this report as an expression of our views on legislation in this area.

Yours sincerely,

CHARLES DONAHUE,
Solicitor of Labor.

The CHAIRMAN. It is our privilege this morning to have as the first witness the Honorable Abraham Ribicoff, the Secretary of Health, Education, and Welfare, a former colleague of ours, I might say, in the House of Representatives. Many of us served with him and recall the pleasant association we had during his brief stay in the House of Representatives, which I believe was two terms, though I am not sure, and a former Governor of the great State of Connecticut, now Secretary, assuming the responsibility of this very large and highly important agency of our Government, of Health, Education, and Welfare.

Mr. Ribicoff, we are glad to welcome you back to this committee and we will be glad to hear your testimony on this important matter.

STATEMENT OF HON. ABRAHAM RIBICOFF, SECRETARY; ACCOMPANIED BY WILBUR J. COHEN, ASSISTANT SECRETARY; BOISFEUILLET JONES, SPECIAL ASSISTANT TO THE SECRETARY, HEALTH AND MEDICAL AFFAIRS; AND DR. LUTHER L. TERRY, SURGEON GENERAL, PUBLIC HEALTH SERVICE, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Secretary RIBICOFF. Thank you, Mr. Chairman and members of the committee. I have with me at the witness table Mr. Wilbur Cohen, Assistant Secretary; Mr. Boisfeuillet Jones, Special Assistant to the Secretary on Health and Medical Affairs, and Dr. Luther Terry, our Surgeon General.

Mr. Chairman, the impact of the bill on which I testify today would be felt—in an immediate, practical way—by every man, woman, and child in the United States.

The bill introduced by the chairman of this committee is an urgent bill because it deals with an urgent health problem.

THE URGENT NEED

Let me state the problem as simply and concisely as possible. The Nation is facing a critical shortage of physicians, dentists, and public health specialists. The impact of this shortage is already being felt in many ways, but its full force is yet to come. Because of the lengthy training period for these professions, corrective measures must be taken immediately or we will be faced with very grave consequences within the next decade.

Numerically, the supply of physicians and dentists has been increasing steadily in recent years. In relation to the population, however, it has been declining.

The potentials of the shortage can best be summarized by a glance at the ratios of professional health personnel to population. Today the United States has about 141 physicians (doctors of medicine and

osteopathy) for every 100,000 people. A decade ago, however, the ratio of physicians to population was 143. This means that our population has increased at a faster rate than our supply of physicians. The population is expected to continue to soar, reaching 235 million by 1975.

Unless action is taken now, the ratio of physicians to population will drop to 138 in 1970 and to 135 in 1975. The decline in dentist supply is of even longer duration and greater severity.

At the same time that the population has been expanding, the demand for medical services has been increasing tremendously. This is due in part to important changes in the composition of the population—changes that will become still more important in future years. The number of children under 15 is expected to increase by nearly 35 percent and the number of people 65 and over by almost 40 percent. These are the groups which are the heaviest users of medical services.

Other facts add to the demand: the increasing complexity of modern medicine, the high level of public awareness of health, the mobility of the population.

Although we define these shortages in terms of ratios and abstractions, the problem is far from abstract to people who need care. The real meaning is that some communities, some families, have had to go without care or adopt heroic measures to attract doctors and dentists to their areas. When there is a pinch, something has to give. Who is to determine which of the programs vital to the Nation's health will have to be curtailed? There is no way of stretching an inadequate total number to meet all the demands that are made on professional health manpower today, and the even heavier demands of tomorrow.

The essential factors contributing to this problem are: (1) The limited enrollment capacity of the schools; (2) The mounting costs of professional education, both for construction and operations; and (3) The dwindling supply of qualified applicants.

Even to maintain the present levels of physicians and dentists in relation to population—simply to keep up with population growth—we must in the next decade increase the admissions to medical schools by almost 50 percent and nearly double the admissions to dental schools. Admissions to medical schools must be increased from about 8,200 today to about 12,000 in 1970, or by about 3,800. Admissions to dental schools must be increased from 3,600 to 6,900, or about 3,300.

A part of the need could be met by expanding the capacity of the 92 existing schools of medicine and osteopathy and the 47 schools of dentistry. But it would simply be beyond their reach to provide the 3,800 additional training places for physicians and the 3,300 additional training places for dentists that will be needed by 1970.

To meet this goal we will need the estimated 20 new medical schools and 20 new dental schools.

Let me emphasize, Mr. Chairman, that the conclusions regarding manpower shortages and training requirements are not just ours. They represent the consensus of a number of expert studies. The most recent was a study made in 1959 by the Surgeon General's Consultant Group on Medical Education, headed by Mr. Frank Bane.

In addition to expanding school enrollments, we must assure an adequate number of qualified applicants for the schools. We cannot afford quantity at the expense of quality.

For many years there were far more qualified applicants than the schools could admit. There are disturbing indications today that the trend is in the other direction. Although the number of college graduates is going up sharply every year, the number of applicants for medical and dental schools is actually falling. The total number of medical school applicants, for example, dropped from 22,279 in 1950 to 15,170 in 1958. And within this group there has been a downward trend in the quality of applicants. Some schools have found it necessary to resort to active recruitment campaigns to attract promising youngsters. The recruitment problem will obviously become even more serious when enrollments are expanded to meet our rapidly growing needs.

The reasons for the decline in qualified applicants are not hard to find. Professional training is long and arduous. It is costly. And sources of student aid are very limited.

After finishing 4 years of college, the student must spend another 4 years in medical or dental school, plus an additional 1 to 6 years as intern, resident, or fellow in a specialty. This means a total of 5 to 10 years of graduate education before he can start his practice.

Although costs are high, scholarship funds for medical and dental students are grossly inadequate. About 1 medical student in 8, and about 1 dental student in 12, receives a scholarship averaging $500 a year. Scholarship funds for first-year students are especially limited.

It is not surprising, therefore, that 40 percent of all medical students now come from families with incomes of $10,000 or more a year. The same is true of students applying for admission to dental schools. The fact is that many students run up heavy debts before they finish their professional training, debts which must wait several more years before they can be paid.

Yet medical or dental students share very little in the fellowships and other graduate awards given by the Federal Government. For example, such agencies as the National Science Foundation, the National Institutes of Health of the Public Health Service, and the Office of Education are currently awarding some 10,000 science fellowships annually. These usually cover both tuition and living expenses for graduate science students. It is small wonder, then, that the Nation's brightest college students are drawn to other scientific fields. They are turned away from the health professions by the exhausting requirements in time and money.

We need to draw our future supply of doctors and dentists from the largest possible reservoir of able young men and women, regardless of financial condition. This will require financial aid for students in all parts of the country. We are convinced that this aid should take the form of scholarships rather than loans. A student from a low-income family would be discouraged by the prospect of adding a new indebtedness of $5,000 or more to the debts he has already incurred in financing his basic college education.

THE NEED FOR FEDERAL AID

Confronted with this clear evidence that our supply of medical and dental manpower is falling behind our rapidly increasing demands, we must come to grips with two tough but unavoidable questions—what has to be done, and who is going to do it?

The answer to the first question has already been pointed out. The total enrollment of our schools must be sharply increased during the 1960's. At the same time we must lower the financial obstacles to professional education which are throttling our supply of qualified medical and dental students.

The answer to the second question is twofold. First, all of the present sources of school financing must increase their contributions. This means State legislatures, alumni, business and industry, foundations and private donors, and voluntary societies and organizations. Second, some major new sources of funds must be found during this period of extraordinary expansion. The plain fact is that the present sources of funds cannot meet all of the additional needs—or meet them in time to forestall a crippling manpower shortage in the very near future.

The proof of this conclusion is written clearly in the record of the last 10 years. In 1951 there were 86 schools of medicine and osteopathy in the United States. There combined annual output was 6,600 graduates annually. Through extraordinary planning and fund-raising efforts, six new medical schools were established between 1951–61, and a number of existing schools expanded their enrollment substantially. As a result, the annual number of graduates from the schools combined was increased by about 1,000 above the 1951 level.

In addition, State agencies sharply increased the number of licenses issued to physicians trained in other countries. In 1951, some 600 graduates of foreign schools were newly licensed to practice medicine in the United States. By 1959 the number had risen to nearly 1,800 per year.

But despite a 15-percent increase in American graduates and a 200-percent increase in the licensing of physicians trained abroad, our ratio of physicians to population is lower today than it was 10 years ago. Assuming that this present trend of enrollment expansion can be maintained for this next 10 years, the total number of new graduates in 1971 will be 8,600—more than 1,000 short of the number required to keep pace with population growth alone.

No, Mr. Chairman, we cannot get the job done just by urging others to redouble their efforts. A major new source of financial strength must be added to existing efforts. The only source that can supply the required strength in time to meet the need is the Federal Government.

It should also be pointed out that the Federal Government itself has a direct interest in expanding the supply of health manpower. It has become increasingly difficult to recruit and retain professional health specialists for the Armed Forces and their dependents, for veterans' medical care, and for the programs of the Public Health Service, and the competition for available personnel is becoming keener every year.

The question, therefore, is not whether the Federal Government should help to meet the national need. The key questions are these: Where should we direct our aid so as to get the most immediate results? What forms of aid will be most effective in supplementing the stimulating non-Federal funds without disrupting existing responsibilities in professional education?

The provisions of H.R. 4999 reflect our considered judgment as to how these questions should be answered. They include: (1) Planning grants to accelerate the establishment of new and improved teaching facilities and programs and to focus State and community attention on local needs and responsibilities for the training of health personnel; (2) matching grants for the construction of new and expanded teaching facilities; and (3) grants to schools for scholarship aid to talented but needy students, with payments to schools to help meet the instructional costs related to these federally aided students.

We believe that this aid will provide the additional support required to arrest the downward trend in our manpower supply. But this aid alone will not do the job. Increased support from non-Federal sources will also be needed. These sources must supply the funds required to match Federal construction grants. They must meet most of the mounting costs of modernizing and maintaining existing teaching facilities. And finally, they must assume most of the additional costs of providing high-quality professional instruction for a greatly expanded enrollment.

Neither of these additional financial burdens—the Federal or the non-Federal—will be easy to meet. But both must be met as the unavoidable cost of providing for the health needs of the Nation.

With this background summary of the problem we face and the action required for its solution, let me now proceed to a description of the key features of H.R. 4999.

GRANTS FOR TEACHING FACILITIES

To provide for an immediate expansion in training capacity, H.R. 4999 would authorize both planning grants and construction grants, over a 10-year period, for schools of medicine, dentistry, osteopathy, and public health.

Planning grants would be available to "regional, interstate, State, or local public or private nonprofit agencies" to help in planning and determining the need for teaching facilities or for improved programs of training professional personnel. They would thus not be limited to existing schools or to universities considering the establishment of a new professional school. The bill authorizes $500,000 annually for these planning grants.

The construction grants provisions, however, constitute the core of the training expansion proposal. To help build new schools and expand the enrollment capacity of existing schools, the bill would authorize Federal construction grants totaling $60 million annually for 10 years. Of this total, $15 million annually would be earmarked for dental school facilities, and $45 million would be available for medical schools (including schools of osteopathy) and schools of public health. Any teaching facilities essential to the establishment of a new school or to the expansion of an existing school would be eligible for Federal grant assistance—including classrooms, laboratories, libraries, and (under special circumstances) teaching hospitals or other clinical teaching facilities.

The national goal is expanded enrollments. Therefore, the highest priority would be given to those projects that provide for the greatest number of students. The maximum Federal grant—two-thirds of the

total construction costs—could be awarded for the construction of a new school or for construction that will permit a major expansion in the enrollment capacity of an existing school. The maximum for other projects would be 50 percent.

This differential in matching is based on the fact that a school embarking on a major expansion of enrollment is assuming a new budget responsibility of unusual proportions. It takes considerable time to obtain a large construction budget, and construction may have to be postponed pending the availability of matching funds. This is a delay the Nation can ill afford, however. In view of the 6- to 8-year time lag between the beginning of construction and the graduation of the first new or expanded class, we cannot await further postponement.

The bill also provides limited aid for schools having urgent problems of obsolescence and renovation. Without aid, something must suffer—either enrollment or the quality of training. The bill therefore authorizes construction grants for the replacement or rehabilitation of existing teaching facilities—

which are so obsolete as to require the school to curtail substantially its enrollment or the quality of training provided.

Schools of medicine, osteopathy, dentistry, and public health would be eligible for such grants. Over a 10-year period, annual appropriations of $15 million would be authorized for this purpose. Priority would be based primarily on the relative urgency of the need for corrective action, and the maximum amount of any Federal grant could not exceed 50 percent of the costs of construction.

MEDICAL AND DENTAL SCHOLARSHIPS

To help overcome the financial barrier to medical and dental education, H.R. 4999 authorizes a program of scholarship grants to schools of medicine, osteopathy, and dentistry. Because graduate traineeships are already authorized for students in schools of public health, these schools are not included in the scholarship provisions of the bill.

Federal scholarship aid would be provided through grants to the schools for specific awards to students on the basis of their individual financial needs, subject only to certain statutory guidelines, such as the provision that no scholarship could exceed $2,000 a year.

During the first year of the program, only freshman students would be eligible for scholarships, with progressive eligibility for one more class each year. By the fourth year all classes would be covered. The amount of scholarship funds granted to each school would permit an average award of $1,500 for one-fourth of the students in each eligible class.

Appendix A, which is attached to this statement, amplifies this brief description of the scholarship provisions of the bill. It contains a more complete description of the scholarship grant program and tables indicating how the funds will be distributed among the schools.

Scholarship grants to the schools could be used only for helping students to pay for tuition, fees, books, equipment, and living costs. To help the schools meet their own costs of training recipients of federally financed scholarships, the bill would also authorize the Surgeon General to make cost-of-education payments to schools receiving the scholarship grants. For each student awarded such a scholarship, up

to a maximum of one-fourth of each eligible class, the school would receive a payment of $1,000 annually. More complete explanatory material on this point is also contained in appendix A.

We recognize that such payments will not completely bridge the gap between what the student pays and what it costs the school to train the student. In most instances, the net cost to the school far exceeds $1,000 a year. These payments will help, however, in meeting the rising costs of instruction.

Before completing this review of the provisions of H.R. 4999 relating to training for the health professions, let me explain why the bill concentrates on the training of physicians, dentists, and public health specialists. These are by no means the only shortage groups. The national shortage of nurses, for example, is probably the greatest in quantitative terms.

The concentration on these three groups is based on three primary considerations. First, these are all key professional groups whose services are so basic to a broad range of health programs that any serious shortage has particular national significance. Second, the cost of professional training—both to the school and to the student—is so high that Federal assistance is clearly needed to augment other sources of funds. Third, careful studies have been made of the manpower and training problems in each of these categories. These studies not only document the nature and scope of the problems but also provide a basis for developing appropriate remedial measures.

Physicians, dentists, and public health specialists are the only groups to which all three of these factors currently apply. I should add, however, that we are fully aware of the problems in several other categories and are taking steps to assess the needs. For example, the Surgeon General last May appointed an expert consultant group to review and evaluate the field of nurse training and education. We expect to receive the findings and recommendations of this group soon, and we are hopeful that they will point the way to the expansion and strengthening of training programs for nurses.

CONSTRUCTION GRANTS FOR RESEARCH FACILITIES

The bill as introduced also includes a series of amendments to extend and strengthen existing provisions in the Public Health Service Act authorizing grants to aid in the construction of health research facilities. The principal amendments would:

1. Extend the present construction grant provisions in title VII of the act for another 3 years at the current appropriation authorization of $50 million annually;
2. Provide new authority for direct Federal construction or financing of special national or regional research facilities; and
3. Repeal the authority in section 433(a) of the act for unmatched construction grants for research facilities in certain fields.

Before explaining the purpose of these amendments, let me acknowledge that certain actions taken during the last congressional session require some modifications of the original provisions of H.R. 4999. As enacted by the Congress, Public Law 87-395 (the Community Health Services and Facilities Act) included some of the amendments originally proposed in H.R. 4999.

In recognition of this action, Mr. Chairman, you recently requested that in the course of our testimony on H.R. 4999 we point out the necessary revisions in the research facilities provisions of this bill. You also asked for our comments on certain questions arising from your previous consideration of these proposals. In response to this request, we have prepared a point-by-point reply, which you will find in appendix B at the end of this statement. I will not undertake at this time to summarize the information covered in appendix B, but I should like to comment on some of the key points.

The research facilities construction grant program has been a highly successful one. It is now in its sixth year. To date a total of 872 grants have been awarded to 336 research institutions. The total amount of Federal funds awarded has been approximately $180 million which has stimulated construction of at least $360 million of research facilities. The result has been a substantial expansion of the Nation's plant capacity for research in the sciences related to health. Despite the accomplishments thus far, there is a continuing need for new and improved research facilities to advance our fight against disease and disability.

The proposal before you calls for an extension of this program over an additional 3-year period. This does not mean that the needs for research facilities will be substantially met within 3 years. Rather, it represents our belief that, in a field characterized by rapidly changing needs and developments, periodic appraisals of program objectives, requirements, and priorities are in the public interest. There is obviously a close relationship between the construction of research facilities—an ongoing program—and the construction of teaching facilities—a new responsibility. It is important that our next appraisal of these programs give special attention to this relationship on the basis of actual operating experience.

The authorization of $50 million annually will strengthen the program substantially. It will not be adequate, of course, to finance all the research facilities which are needed. We believe, however, that this is a reasonable amount in the context of the many meritorious proposals brought before the Federal Government in the health field and the other demands on the Federal Treasury. In our opinion, Federal assistance for the construction of medical and dental teaching facilities has the highest urgency in the health field now and for some years to come. Any competing demands must be appraised in the light of this No. 1 priority.

In addition to strengthening the existing research facilities construction grant program, H.R. 4999 would supplement this program with a new provision authorizing the Surgeon General to construct, or finance the construction of, certain national or regional research facilities and to enter into arrangements with public and nonprofit agencies for the operation of such facilities.

Under special cooperative arrangements with a "host" institution, Federal funds will be used for construction costs, and perhaps for certain operating costs, while the host institution will assume primary responsibility for directing and staffing the research program. Although arrangements of this kind will be employed only in a limited number of cases, it is important that such authority be available as an adjunct to the construction grant program.

Finally, I should like to comment on the repeal of the categorical construction grant provisions in section 433(a) of the Public Health Service Act—and on the relation question of increased Federal Matching raised in your chairman's letter of January 9.

1. Although only limited use has been made of this categorical grant authorization in recent years, and the facilities aided have warranted substantial Federal assistance, we believe that the continuation of this overlapping authorization is unnecessary and unwise. Whatever provisions are made for research construction grants should be contained in a single authorization and administered with the aid of a single advisory council.

2. We believe that an unmatched construction grant for a facility to be used primarly for the conduct of the research facility of a single institution is unwise; the institution should assume some share of the construction cost.

3. While authorization to make research facility construction grants in excess of 50 percent might be a useful tool under certain special circumstances, the increased matching thus provided needs to be weighted against the increased Federal cost, the reduction in institutional involvement, and the difficulty of distinguishing among institutions objectively and fairly.

There matters are discussed in greater detail in appendix B.

In conclusion, Mr. Chairman, I have undertaken in this general statement to cover only the major objectives and provisions of H.R. 4999. Some additional information and explanatory materials are included in appendix A and B. We shall be pleased at this time to amplify any points that may be of particular interest or concern to your committee. This is a major legislative proposal to which we assign the highest priority. We urge its enactment at the earliest possible date.

Thank you, Mr. Chairman, for your courtesy and attention.

(The information referred to follows:)

APPENDIX A [1]

SCHOLARSHIP FUNDS

The proposed scholarship program would provide scholarships as follows:

In the first year each school would receive for this purpose an amount equal to $1,500 times one-fourth of the number of first-year students, with only first-year students eligible for this scholarship aid. In the second year the school allotment would be increased to provide for one-fourth of the first- and second-year classes, with aid available to the students in these two classes. A similar increase would be made in the third year; and in the fourth year the four classes would be included.

Within the school's allotment limitations, more or less than one-fourth of the students of a class might be aided, with scholarships in varying amounts up to a maximum of $2,000 a year for any one student.

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[1] Supplement to Secretary Ribicoff's statement before Senate Committee on Labor and Public Welfare on H.R. 4999, Jan. 23, 1962.

The computation formulas for an individual school would be:

Year	*Formula*
1962	$\frac{\text{Number of 1st year students}}{4} \times \$1{,}500$
1963	$\frac{\text{Number of 1st and 2d year students}}{4} \times \$1{,}500$
1964	$\frac{\text{Number of 1st, 2d, and 3d year students}}{4} \times \$1{,}500$
1965	$\frac{\text{Number of students in all 4 classes}}{4} \times \$1{,}500$

The following table shows the number of scholarships, and the amount of scholarship funds, which would be available to medical, dental, and osteopathic schools of different sizes, in the first, second, third, and fourth year of the program:

Scholarship grants

Total enrollment	Number of students per class	Number of scholarships				Total amount			
		1963	1964	1965	1966	1963	1964	1965	1966
200	50	13	25	38	50	$19,500	$37,500	$57,000	$75,000
300	75	19	38	56	75	28,500	57,000	84,000	112,500
400	100	25	50	75	100	37,500	75,000	112,500	150,000
500	125	31	63	94	125	46,500	94,500	141,000	187,500
600	150	38	75	113	150	57,000	112,500	169,500	225,000

COST OF EDUCATION PAYMENTS TO SCHOOLS

In addition to amounts for student scholarships the bill authorizes cost of education payments to schools which receive scholarship grants. These payments to the schools would assist in providing stability in operating budgets essential to expansion of enrollment and maintenance of high quality instruction. For this purpose each school would receive an amount equal to $1,000 for one-fourth of the first-year class (or $1,000 for each scholarship holder, whichever was smaller) in the first year, increasing by the fourth year to $1,000 for one-fourth of the 4-year enrollment (or $1,000 for each scholarship holder, whichever was smaller).

The following table shows the amounts of cost of education payments for which medical, dental, and osteopathic schools would be eligible, in the first, second, third, and fourth years of the program:

Cost of education payments

Enrollment	Number of students per class	Total amount			
		1963	1964	1965	1966
200	50	$13,000	$25,000	$38,000	$50,000
300	75	19,000	38,000	56,000	75,000
400	100	25,000	50,000	75,000	100,000
500	125	31,000	63,000	94,000	125,000
600	150	38,000	75,000	113,000	150,000

PROPOSED HEALTH PROFESSIONS EDUCATIONAL ASSISTANCE ACT, H.R. 4999

Estimated number of scholarships and amount of money to be awarded to students in schools of medicine and osteopathy

NOTE.—The number of scholarships for the first year of the program was estimated as one-fourth of the first-year enrollment in each school in 1959–60, plus 5 percent. The fifth year estimates are based on one-fourth of the expected 4-year enrollment in each school. Experienced enrollment expansion is shown a separate item at the end of the table. Cost estimates were based on an average $1,500 scholarship.

State and school	1st year		5th year	
	Scholarship	Amount	Scholarship	Amount
Total	2,342	$3,513,000	9,900	$14,850,000
Alabama: Medical College of Alabama	20	30,000	80	120,000
Arkansas: University of Arkansas School of Medicine	23	34,500	92	138,000
California:				
College of Medical Evangelists	27	40,500	108	162,000
University of California at Los Angeles	15	22,500	60	90,000
University of Southern California	18	27,000	72	108,000
Stanford University School of Medicine	18	27,000	72	108,000
University of California School of Medicine	26	39,000	104	156,000
College of Osteopathic Physicians and Surgeons	27	40,500	108	162,000
Colorado: University of Colorado School of Medicine	22	33,000	88	132,000
Connecticut: Yale University School of Medicine	20	30,000	80	120,000
District of Columbia:				
Georgetown University School of Medicine	29	43,500	116	174,000
George Washington University School of Medicine	26	39,000	104	156,000
Howard University College of Medicine	27	40,500	108	162,000
Florida:				
University of Miami School of Medicine	21	31,500	84	126,000
University of Florida College of Medicine	13	19,500	52	78,000
Georgia:				
Emory University School of Medicine	20	30,000	80	120,000
Medical College of Georgia	26	39,000	104	156,000
Illinois:				
Chicago Medical School	19	28,500	76	114,000
Northwestern University Medical School	33	49,500	132	198,000
Stritch School of Medicine	22	33,000	88	132,000
University of Chicago School of Medicine	19	28,500	76	114,000
University of Illinois College of Medicine	50	75,000	200	300,000
Chicago College of Osteopathy	19	28,500	76	114,000
Indiana: Indiana University School of Medicine	46	69,000	184	276,000
Iowa:				
State University of Iowa College of Medicine	30	45,000	120	180,000
College of Osteopathic Medicine and Surgery	21	31,500	84	126,000
Kansas: University of Kansas School of Medicine	26	39,000	104	156,000
Kentucky:				
University of Louisville School of Medicine	25	37,500	100	150,000
University of Kentucky School of Medicine	18	27,000	72	108,000
Louisiana:				
Louisiana State University School of Medicine	32	48,000	128	192,000
Tulane University School of Medicine	33	49,500	132	198,000
Maryland:				
Johns Hopkins University School of Medicine	20	30,000	80	120,000
University of Maryland School of Medicine	25	37,500	100	150,000
Massachusetts:				
Boston University School of Medicine	18	27,000	72	108,000
Harvard Medical School	29	43,500	116	174,000
Tufts University School of Medicine	29	43,500	116	174,000
Michigan:				
University of Michigan Medical School	49	73,500	196	294,000
Wayne State University College of Medicine	32	48,000	128	192,000
Minnesota: University of Minnesota Medical School	36	54,000	144	216,000
Mississippi: University of Mississippi School of Medicine	20	30,000	80	120,000
Missouri:				
University of Missouri School of Medicine	19	28,500	76	114,000
St. Louis University School of Medicine	29	43,500	116	174,000
Washington University School of Medicine	22	33,000	88	132,000
Kansas City College of Osteopathy and Surgery	27	40,500	108	162,000
Kirksville College of Osteopathy and Surgery	26	39,000	104	156,000
Nebraska:				
Creighton University School of Medicine	20	30,000	80	120,000
University of Nebraska College of Medicine	22	33,000	88	132,000
New Hampshire: Dartmouth Medical School	6	9,000	[1] 12	18,000
New Jersey: Seton Hall College of Medicine	21	31,500	84	126,000
New York:				
Albany Medical College	16	24,000	64	96,000
University of Buffalo School of Medicine	21	31,500	84	126,000
Albert Einstein College of Medicine	24	36,000	96	144,000
Columbia University College of Physicians and Surgeons	30	45,000	120	180,000
Cornell University Medical College	21	31,500	84	126,000
New York Medical College	32	48,000	128	192,000
New York University College of Medicine	34	51,000	136	204,000
State University of New York, Downstate Medical College	39	58,500	156	234,000
University of Rochester School of Medicine	18	27,000	72	108,000
State University of New York Upstate Medical College	21	31,500	84	126,000

[1] 2-year school.

State and school	1st year		5th year	
	Scholarship	Amount	Scholarship	Amount
North Carolina:				
University of North Carolina School of Medicine	18	$27,000	72	$108,000
Duke University School of Medicine	19	28,500	76	114,000
Bowman Gray School of Medicine	14	21,000	56	84,000
North Dakota: University of North Dakota School of Medicine	11	16,500	[1] 22	33,000
Ohio:				
University of Cincinnati College of Medicine	24	36,000	96	114,000
Western Reserve University School of Medicine	22	33,000	88	132,000
Ohio State University College of Medicine	38	57,000	152	228,000
Oklahoma: University of Oklahoma School of Medicine	26	39,000	104	156,000
Oregon: University of Oregon Medical School	20	20,000	80	120,000
Pennsylvania:				
Hahnemann Medical College	28	42,000	112	168,000
Jefferson Medical College	45	67,500	180	270,000
Temple University School of Medicine	35	52,500	140	210,000
University of Pennsylvania School of Medicine	33	49,500	132	198,000
Woman's Medical College of Pennsylvania	13	19,500	52	78,000
University of Pittsburgh School of Medicine	27	40,500	108	162,000
Philadelphia College of Osteopathy	21	31,500	84	126,000
Puerto Rico: University of Puerto Rico School of Medicine	13	19,500	52	78,000
South Carolina: Medical College of South Carolina	20	30,000	80	120,000
South Dakota: State University of South Dakota School of Medicine	11	16,500	[1] 22	33,000
Tennessee:				
University of Tennessee College of Medicine	51	76,500	204	306,000
Meharry Medical College	20	30,000	80	120,000
Vanderbilt University School of Medicine	13	19,500	52	78,000
Texas:				
Southwestern Medical School	26	39,000	104	156,000
University of Texas Medical Branch	37	55,500	148	222,000
Baylor University School of Medicine	21	31,500	84	126,000
Utah: University of Utah College of Medicine	14	21,000	56	84,000
Vermont: University of Vermont College of Medicine	13	19,500	52	78,000
Virginia:				
University of Virginia School of Medicine	19	28,500	76	114,000
Medical College of Virginia	21	31,500	84	126,000
Washington: University of Washington School of Medicine	20	30,000	80	120,000
West Virginia: West Virginia University School of Medicine	12	18,000	48	72,000
Wisconsin:				
University of Wisconsin Medical School	22	33,000	88	132,000
Marquette University School of Medicine	26	39,000	104	156,000
Unallocated expansion	112	168,000	1,036	1,554,000

[1] 2-year school.

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Estimated number of scholarships and amount of money to be awarded to students in dental schools

NOTE.—The number of scholarships for the first year of the program was estimated as one-fourth of the first-year enrollment in each school in 1959–60, plus 5 percent. The fifth year estimates are based on one-fourth of the expected 4 year enrollment in each school. Expected enrollment expansion is shown as a separate item at the end of the table. Cost estimates were based on an average $1,500 scholarship.

State and school	1st year		5th year	
	Scholarships	Amount	Scholarships	Amount
Total	1,000	$1,500,000	4,100	$6,150,000
Alabama: University of Alabama	14	21,000	56	84,000
California:				
College of Physicians and Surgeons	15	22,500	60	90,000
University of California	18	27,000	72	108,000
University of Southern California	27	40,500	108	162,000
College of Medical Evangelists	15	22,500	60	90,000
District of Columbia:				
Georgetown University	22	33,000	88	132,000
Howard University	20	30,000	80	120,000
Georgia: Emory University	21	31,500	84	126,000
Illinois:				
Loyola University, Chicago	25	37,500	100	150,000
Northwestern University	18	27,000	72	108,000
University of Illinois	23	34,500	92	138,000
Indiana: Indiana University	23	34,500	92	138,000
Iowa: State University of Iowa	14	21,000	56	84,000
Kentucky: University of Louisville	16	24,000	64	96,000
Louisiana: Loyola University, New Orleans	14	21,000	56	84,000
Maryland: University of Maryland	25	37,500	100	150,000
Massachusetts:				
Harvard University	3	4,500	12	18,000
Tufts University	25	37,500	100	150,000
Michigan:				
University of Detroit	20	30,000	80	120,000
University of Michigan	19	28,500	76	114,000
Minnesota: University of Minnesota	26	39,000	104	156,000
Missouri:				
St. Louis University	8	12,000	32	48,000
University of Kansas City	29	43,500	116	174,000
Washington University	12	18,000	48	72,000
Nebraska:				
Creighton University	12	18,000	48	72,000
University of Nebraska	9	13,500	36	54,000
New Jersey:				
Fairleigh Dickinson University	12	18,000	48	72,000
Seton Hall University	9	13,500	36	54,000
New York:				
Columbia University	10	15,000	40	60,000
New York University	42	63,000	168	252,000
University of Buffalo	17	25,500	68	102,000
North Carolina: University of North Carolina	13	19,500	52	78,000
Ohio:				
Ohio State University	38	57,000	152	228,000
Western Reserve University	16	24,000	64	96,000
Oregon: University of Oregon	20	30,000	80	120,000
Pennsylvania:				
Temple University	32	48,000	128	192,000
University of Pennsylvania	33	49,500	132	198,000
University of Pittsburgh	24	36,000	96	144,000
Puerto Rico: University of Puerto Rico	7	10,500	28	42,000
Tennessee:				
Meharry Medical College	10	15,000	40	60,000
University of Tennessee	27	40,500	108	162,000
Texas:				
Baylor University	22	33,000	88	132,000
University of Texas	25	37,500	100	150,000
Virginia: Medical College of Virginia	20	30,000	80	120,000
Washington: University of Washington	17	25,500	68	102,000
West Virginia: West Virginia University	7	10,500	28	42,000
Wisconsin: Marquette University	29	43,500	116	174,000
Unallocated expansion	97	145,500	488	732,000

APPENDIX B [1]

On January 9, 1962, the chairman of the House Interstate and Foreign Commerce Committee directed to the Secretary of Health, Education, and Welfare a letter containing a series of five questions relating to that portion of H.R. 4999 which amends title VII of the Public Health Service Act covering the health research facilities construction program. The following statement provides information in reply to these questions supplementary to the comment thereon contained in the Secretary's formal testimony.

[1] Supplement to Secretary Ribicoff's statement before the House Committee on Interstate and Foreign Commerce on H.R. 4999, Jan. 23, 1962.

For purposes of clarity, the questions raised by the committee are set forth in full, followed by the departmental comment thereon:

Question 1. What revisions in the language of that portion of H.R. 4999 dealing with the construction of health research facilities are necessary as a consequence of the enactment of Public Law 87–395?

To reflect passage of Public Law 87–395 the following changes in the current language of H.R. 4999 would be required:

1. 3(a): Strike out the first sentence increasing the appropriation authorization to $50,000,000. In the second sentence change the words 'five succeeding fiscal years" to "six succeeding fiscal years" and the words "eight succeeding fiscal years" to read "nine succeeding fiscal years".

2. Section 3(b): Change the date "June 30, 1961" to read "June 30, 1962" and the date "June 30, 1964" to read "June 30, 1965".

3. Section 3 (c), (d), and (g): Strike out these sections in their entirety.

4. Section 3 (e) and (f): These sections remain unchanged.

Marked copies of the bill reflecting these changes are available for the use of the committee staff. Final dates for acceptances of grant applications and termination of the program have been revised to reflect the lapse of time since the bill was drafted.

Question 2. In the light of the continuing growth of medical research does the level of annual appropriations of $50 million contained in Public Law 87–395 provide adequately for the construction of health research and research training facilities in this country?

The $50 million annual appropriation authorization for Federal construction grants as now in effect for this program through the enactment of Public Law 87–395 will permit the initiation of a minimum of $100 million worth of health research facility construction each year. Over the 4-year period in which this authorization would be effective under the proposed terms of H.R. 4999, the minimum volume of research facility construction would total $400 million. This Department believes that these levels of construction would provide for a reasonable balance among Federal programs for the support of research and research training in the health sciences and the proposed program of construction for medical and dental teaching facilities.

This $50 million level of authorization would not, on the other hand, build all the health research facilities which this country may need or could use to advantage. While there are no definite measures of these needs, a recent survey among currently eligible institutions which were asked to project their needs for fiscal years 1963, 1964, and 1965 indicated that they would expect to request almost $425 million in Federal funds for their research construction at 50 percent matching. At this level of need, upward of $100 million in Federal funds per annum would be required. However, few if any Federal construction aid programs contemplate that all desirable construction will or should be assisted by Federal funds. Furthermore, Federal action in this area must be viewed in the context of related Federal programs as well as overall national needs and budgetary considerations. Over the past several years, substantial Federal support has been provided for health research programs, including $180 million in matching grants for research construction. Pending the enactment of H.R. 4999, there is at present no means by which the Federal Government can act to meet this Nation's desperate need for enlarging the output of physicians and dentists. It is this latter need which must at this time be given the highest priority.

For these reasons, this Department believes the current $50 million authorization for the health research facility construction program is an appropriate level of Federal support in this area.

Question 3. Does the present requirement of 50 percent matching in the construction of health research facilities permit the achievement of the objectives of this program or would some form of flexible matching ratios be preferable in order to recognize regional and institutional differences in research construction needs and financial ability to match Federal funds?

The matching requirement of the present health research facilities construction program permits flexibility within the 50-percent maximum imposed by the law. The major problem which is presented by such flexibility is the difficulty of devising adequate and objective guidelines and conditions governing its application in specific cases. The heart of this difficulty lies in determining the relative ability of institutions to provide a matching share of the cost of the construction involved.

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The diverse character and sponsorship of the institutions participating in this program is a large part of this problem. Many institutions are public and tax supported; others are private and dependent upon their own resources and private giving. Public institutions sometimes obtain matching funds from alumni and other private sources, and private institutions sometimes receive support from public funds. Few institutions have the full amount of matching money in hand, or in reserves, at the time of application. The amount which they can make available is related to their general financial condition, the skill and effort directed toward raising money from private sources, and the relative urgencies of the several needs confronting the institution. Under these circumstances, it becomes extremely difficult to assess with objectivity an institution's "ability" to match Federal funds. As a consequence, the 50-percent maximum has been allowed in the majority of awards for construction under the current program.

Although considerable effort has been expended by the staff of this Department in exploring the feasibility for a formula, based on objective measures, for determining an appropriate Federal share in any particular project, it has not yet been possible to develop a formula which can encompass the diverse considerations which should be taken into account in the research facilities program. In the face of our inability thus far to develop such an objective formula, this Department does not recommend modification in the present matching requirements of the statute.

We would, of course, be glad to share with the committee the results of our explorations. In general, we have reached the following conclusions with respect to any new approach to matching on these projects:

(*a*) *Percentage of Federal participation.*—Some limit on Federal participation is essential; the concept that there must be a substantial institutional involvement in any institutional construction project financed with the aid of a Federal grant should be maintained.

(*b*) *Criteria for special matching.*—In order to be eligible for special matching, projects should be required to meet rigorous criteria, such as—

(1) Facilities required to initiate, accelerate, or expand research in particular research fields deemed in the national interest to require unusual or extraordinary support;

(2) Facilities which place an unusual financial burden or risk on the sponsoring institutions because of the high cost of their specialized design or equipment or changing concepts or approaches in the field which make them particularly susceptible to obsolescence; and

(3) Facilities which will provide for the development of research potential of a given institution which could not be expected to develop without such support.

Departmental staff is prepared to discuss the further resolution of such criteria with committee staff.

Question 4. If provision is made for flexible matching, are there any needs in the area of research facility construction which would require the continued retention of a nonmatching program—as provided in section 433(a) of the Public Health Service Act?

If the authority for Federal financing up to the full cost of the construction of regional and national facilities contained in section 3(f) of H.R. 4999 is enacted, this Department believes that there is no need for the nonmatching construction authority provided in section 433(a) of the Public Health Service Act.

As a matter of policy, this Department believes that Federal assistance in the construction of research facilities to meet the needs of institutions and organizations engaged in health research should ordinarily be provided in the form of matching grants. This is believed to be sound as a general rule because matching provides a basis upon which both the Federal and institutional in such construction can be joined to mutual advantage without modification of normal institutional responsibilities. This requirement of matching funds serves to stimulate fund-raising efforts on the part of others—with the result that the total sums available for construction capital are increased. It also encourages prudent economy in the development of construction plans and specifications.

The construction of research facilities for the most part arises from needs and priorities as perceived by institutions; as such they reflect the character and extent of their research interests and when completed become an integral part of the institutional plant. Federal participation in the cost of such con-

struction derives from the national interest in expanding the Nation's resources for health research.

There are some kinds of research facilities, however, for which it is believed special Federal financing policies and arrangements are warranted because the need for, and use of, the facilities extend well beyond the interests of any single institution. An example is those facilities which, because of their specialized character and high costs, can best be utilized on a national or regional basis, subserving the interests of many institutions and investigators. Insuch cases, the requirement of institutional matching funds may well be prohibitive from the standpoint of the institution best qualified to operate a particular facility. Yet from the Federal standpoint these are the very kinds of facilities that can contribute most to expansion of the Nation's research potential. In view of this, the Department believes it is important to provide flexible authority for the Federal Government to enter into arrangements whereby Federal funds may be used to pay all or most of the construction and equipment costs of such facilities, and in some cases for a major share of their operating costs. The proposed addition of section 712 to the Public Health Service Act as provided for in section 3(b) of H.R. 4999 is specifically intended to provide the requisite flexible authority to meet these needs.

Question 5. What is the need for the construction of medical libraries, and can this need be met adequately under the provisions contained in 87-395 which authorizes the construction of facilities for "research and related purposes"?

Three out of four medical libraries in the country today have outgrown their physical facilities. In 1957 88 percent of the medical school libraries stated that their space needs were crucial; 31 percent of them required new buildings.

These needs have cumulated over the past 30 years for several reasons. First, it is the nature of libraries to increase in size. Historically, medical libraries, similar to all research libraries, have tended to double in size every 15 years, The enormous increases in scientific publication have accelerated this growth rate.

Second, medical libraries generally serve three medical needs, each of which has sharply increased in the past 15 years. Libraries are necessary to the advancement of research knowledge; they are an indispensable adjunct of medical teaching; and they meet the working needs of health practitioners. The same facilities, the same personnel, and the same books and journals are used to advance all three objectives.

Third, perhaps as a consequence of serving not one, but three purposes, medical libraries have not been able to focus attention on their needs for support. During a period of general expansion, they have had low priority. The share of the university dollar devoted to libraries has actually declined from 4.8 cents to 3.1 cents over the last ten years.

Under the provisions of Public Law 87-395 plus those proposed in H.R. 4999, construction assistance would be available from two sources depending upon the purpose to be served by the library. Medical libraries whose services would be directed toward "research and related purposes" would qualify for construction assistance under the health research facilities construction program as amended by Public Law 87-395. Where new or expanded medical libraries are needed to permit expansion of medical and dental school enrollments (or where replacement or rehabilitation of library facilities so obsolete as to require the school to curtail substantially either its enrollment or the quality of training provided are needed), aid for construction could be obtained through the provisions of H.R. 4999 authorizing grants for medical and dental teaching facilities.

Although these two authorizations will not meet all needs for medical libraries this Department believes they will be of material assistance.

The CHAIRMAN. I observed the various appendixes attached to your statement, Mr. Secretary, and other information, which will be included in the record to go along with your statement.

You mentioned something about the number of medical and dental schools in the Nation. Did you include with this information the names of all medical, and dental, and osteopathic schools in the country?

Secretary RIBICOFF. Yes, I have, sir. They are included in appendix A. You will find them beginning on the fourth page. We have listed by State all the medical schools in the Nation, and the impact of the scholarship program on them, and also the dental schools follow that, and the schools of osteopathy.

The CHAIRMAN. Those not only include the State institutions, but private nonprofit medical schools as well?

Secretary RIBICOFF. That is right. All medical schools that come within the definition of private and State and community. They are all listed here.

The CHAIRMAN. They will be entitled to consideration under this proposal?

Secretary RIBICOFF. That is correct, Mr. Chairman.

The CHAIRMAN. Mr. Williams, any questions?

Mr. WILLIAMS. Mr. Secretary, one thing that concerns me greatly about this kind of legislation is the constitutional authority of Congress to spend public funds for these purposes. In the light of article X of the Constitution, I would like to get an expression from you as to where in the Constitution the Federal Government is granted authority to spend money for this purpose?

Secretary RIBICOFF. I would say, Mr. Williams, that the general welfare clause of the Constitution provides the basic authority for Congress to expend funds for this particular purpose. The general welfare clause has always been a clause hedged about with different interpretations. Going back to it historically, you find that when it was first advanced, Alexander Hamilton was the advocate of the broad interpretation of this clause and Thomas Jefferson was the man who was for a narrow interpretation of the general welfare clause. When Jefferson became President and wanted to acquire the Louisiana Territory, and the question was raised, sir, that you raise now, that there was no authority in the Constitution for the United States to acquire this territory, Thomas Jefferson then, I think, changed his mind about the general welfare clause and, I believe, asked Congress not to be petty or picayune because the general welfare clause gave him the authority to acquire this territory. I think all of us feel that it was a pretty good deal.

Ever since that time I think that the great wisdom of the drafters of our Constitution in leaving the general welfare clause as broad as it is has given us the flexibility as a Nation over these many decades to appraise the changing times and the different national needs. As long as a need is general, as against local or specific, to take care of a basic need to advance the general welfare of our people, I believe we have the authority, sir. There is no question in my mind that the general welfare clause of the Constitution has given us the authority for this measure and has given us the authority that has allowed our Nation to advance in the decades that it has.

Mr. WILLIAMS. I don't want to argue the point. I did want to get an expression from you as to where you felt the Federal authority was delegated in the Constitution for this purpose. Can you reconcile that position in the light of article X? The 10th amendment, I presume, it is still in the Constitution. I don't know. I sometimes wonder.

Secretary RIBICOFF. The 10th amendment reserving the rights of the States?

Mr. WILLIAMS. Yes.

Secretary RIBICOFF. I see no conflict here at all with the 10th amendment reserving the rights of the States, because year in and year out Congress has recognized that there are general national needs and there is no interference at all with what the States will do. There is nothing to prevent the States from entering into these fields and the States continue in these fields by building these medical schools. I think we are not interfering with the States. No State needs to apply for these funds and no State needs to have scholarship programs. The bill specifically provides that in no way will there be an interference by the Federal Government in the administration, or the curriculum, or the running of these medical or dental schools. What we are actually doing here is coming in and helping the States supply the basic national need for health personnel which is so essential for the future of our Nation.

Mr. WILLIAMS. Does that also apply to the administrative requirements of the several States?

Secretary RIBICOFF. As far as we are concerned, there is nothing in this bill which tells a State who they should admit, and when they should admit, and how they should admit. You will note that this bill specifically gives the grants to each medical school. The medical school then distributes the scholarship itself.

The Federal Government does not set up the standards. Each medical school will be allocated scholarships equivalent to one-quarter of the entering class multiplied by $1,500. The school then determines who will get the scholarship, and the amount of the scholarship. No scholarship may exceed $2,000. So here we have complete autonomy in each medical school, whether it be a State medical or dental school or private medical or dental school.

Mr. WILLIAMS. You missed the point of my question entirely.

Secretary RIBICOFF. I am sorry.

Mr. WILLIAMS. If a school is set up by a State to educate redheaded people, how would this be administered? For instance, would the State's right to educate only redheaded people be recognized in this instance?

Secretary RIBICOFF. All I would say is that I am sure that somebody in that State would take the case to the Supreme Court and have it declared unconstitutional.

Mr. WILLIAMS. I am speaking from an administrative standpoint. I am not talking about what the courts might do.

Secretary RIBICOFF. It is very difficult to characterize an answer to this question because I respect you so.

Mr. WILLIAMS. I mean, how would you plan to administer the bill?

Secretary RIBICOFF. I know what I would like to say to that question, but I respect you too much.

Mr. WILLIAMS. I will pass, Mr. Chairman.

The CHAIRMAN. Mr. Springer?

Mr. SPRINGER. At the present time I presume, Mr. Secretary, that you have had correspondence with various medical schools over the country expressing an interest in this bill?

Secretary RIBICOFF. My understanding is that the medical schools almost unanimously are in favor of this. Beginning last year, I met with a committee of deans representing the medical schools of this

country who believe that this is absolutely essential if they are going to be able to continue their efforts to build up their reservoir of doctors and also to attract the brighter young men. They pointed out a statistic that I have here, that may be very interesting along this line, on what has been happening to the quality of men and women who enter medical schools.

In 1950–51, 40 percent of the students entering medical school had A averages. In 1960 to 1961, that dropped to 13 percent; in other words, from 40 to 13 percent. In 1950 you had 43 percent with B averages. Today, 1960 to 1961, it is 71 percent. In other words, 10 years ago we were attracting our brightest people to the field of medicine. That has had a fantastic nosedive, as these statistics show.

The deans of the medical schools, and I believe that they will be here to testify, and the representatives of the deans of medical schools, feel that they have practically exhausted their supply of private and institutional funds to expand their facilities. The costs of medical education keep rising so astronomically that they are all deeply concerned for the future of medicine and dentistry in this country.

It is my feeling that as these hearings develop you will find practical unanimity among medical and dental school administrative personnel throughout this Nation, north, south, east, and west, of the basic need for this bill if they are to continue to do their job.

Mr. SPRINGER. May I just develop this a minute?

Secretary RIBICOFF. Yes.

Mr. SPRINGER. Is it your thought and those in the medical schools that by this additional appropriation you will increase or improve the quality of the people who are applying to get into the schools?

Secretary RIBICOFF. Yes, definitely.

Mr. SPRINGER. Do you have any proof of that?

Secretary RIBICOFF. The proof is in this respect. We take the figures of 1950 and we take the figures of 1960 and 1961. What has happened in the last 10 years is something like this. The bright young men who liked science and were attracted to medicine and dentistry find over the last 10 years that more and more scholarships and fellowships have been available, as the testimony has indicated, in the other scientific fields, in physics, and mathematics, and biochemistry, and the other sciences.

They find that the length of study is nowhere as long or as arduous as that of medicine and dentistry.

Mr. SPRINGER. Might I interrupt you, Mr. Secretary, if I may, at that point?

Secretary RIBICOFF. Yes, sir.

Mr. SPRINGER. Is there anything in here providing for scholarships?

Secretary RIBICOFF. This bill; yes, sir.

Mr. SPRINGER. There is?

Secretary RIBICOFF. Yes.

Mr. SPRINGER. How much money?

Secretary RIBICOFF. Each medical school will start off the first year after the bill is enacted receiving an amount which is figured by multiplying 25 percent of its entering class by $1,500. This fund will be distributed by each medical school to those students it selects, and in the amount that they determine but in no event to exceed $2,000. The program will expand in the second year to cover the first- and

second-year students; in the third year, the first, second, and third; and in the fourth year, all four classes. Thus, after the fourth year 25 percent of the attendance in medical and dental schools will be scholarship students.

Mr. SPRINGER. How many?

Secretary RIBICOFF. Twenty-five percent.

Mr. SPRINGER. After how many years?

Secretary RIBICOFF. After 4 years, but the first year of the bill, it would go to the first-year students only.

Mr. SPRINGER. Are we short of doctors in this country?

Secretary RIBICOFF. I would say we are short of doctors in this country.

Mr. SPRINGER. Do we have any facts on that?

Secretary RIBICOFF. I would say all the studies that have been made have indicated a shortage of doctors, the fact that our population grows and our ratio of number of doctors per hundred thousand population keeps declining, the fact that the Surgeon General's Consultant Group on Medical Education, as of 1959, has laid this out. If I may, I will file this report which is a complete study, with the committee.

Mr. SPRINGER. That is perfectly all right. Now, may I ask a question direct to the point here? There have been no new medical schools in this country created since the end of World War II?

Secretary RIBICOFF. There have been eight new medical schools since 1945.

Mr. SPRINGER. And you have an increase in population of how much?

Secretary RIBICOFF. It runs about 2½ million a year.

Mr. SPRINGER. In other words, somewhere between 35 and 40 million people?

Secretary RIBICOFF. That is correct.

Mr. SPRINGER. Are you intending to increase the number of doctors per thousand population?

Secretary RIBICOFF. No. This bill would just keep it at what it is now.

Mr. SPRINGER. Isn't that the essential point?

Secretary RIBICOFF. I would say this. If this committee wanted to enlarge this it would be fine. But we are struggling to keep even, sir.

Mr. SPRINGER. Mr. Secretary, you were here in the Congress when we had this bill up before when Percy Priest was the chairman of this committee and the chairman of the Subcommittee on Health and Science, of which I was a member at that time. We did not have this bill on the floor and I won't dwell on why it didn't get there. It was a problem which we could do nothing about, but there was a very important clause in there and the medical schools came forward with this incentive for the reason that we were short of doctors.

In the armed services, for example, about 2,500 to 3,000 doctors a year were taken. We even had it laid out here in graphs showing the need for increasing the number of doctors, not improving the quality. The fact is there was very little discussion of quality at that time, 6 years ago, the last time this bill received any serious consideration.

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The whole emphasis by the medical schools was the want of increasing the number of doctors per thousand population, and there is nothing in this bill to that end.

Secretary RIBICOFF. I would say this: No, there isn't, but what concerns us is that if we don't do something we will have a fantastic decline to even keep even.

Mr. SPRINGER. Fantastic decline?

Secretary RIBICOFF. That's right.

Mr. SPRINGER. Aren't they taking all of the medical students that they can at the present time?

Secretary RIBICOFF. Are they taking all of the medical students that they can?

Mr. SPRINGER. Yes, sir.

Secretary RIBICOFF. That is correct, but our population for the next decade will have a continued growth.

Mr. SPRINGER. Do you have any guarantee that they are going to increase the number of students admitted to any school that will receive benefits under this bill?

Secretary RIBICOFF. Yes. I would say this. The condition of this grant of two-thirds is on the basis that they will have facilities to bring in new students. In other words, the 66⅔ will be given only to a new medical school or for an expansion of existing facilities to bring in extra students.

Mr. SPRINGER. Does it say so?

Secretary RIBICOFF. Yes, it does.

Mr. SPRINGER. Does the bill say so?

Secretary RIBICOFF. It certainly does.

Mr. SPRINGER. Does it say how many they shall bring in?

Secretary RIBICOFF. No, it doesn't. That depends on each particular school, but the amount that is allocated will have a relationship as to the amount of new students they can handle, sir.

Mr. SPRINGER. Just let me say this. I think I know something about this because Mr. Hayworth, who is no longer in the Congress on that side of the aisle, and I traveled over the country visiting medical schools. We visited only a few medical schools that wanted to increase their numbers. They just wanted more buildings and more space. It is true they might improve the quality, but I could find school after school that had no desire whatever to increase their numbers.

In the 1955 bill the granting of money was proportional, and my recollection is—I will stand corrected—that they got 50 percent if they increased their enrollment by 5 percent in the first year after the grant was made and they received, it is my recollection, 75 percent if they agreed to increase their enrollment by 10 percent in the next entering class of medical school.

Would there be any reason why you would be opposed to such an amendment or similar amendment that could be worked out that is fair and reasonable upon the question of increasing the number or making your grants upon the basis that the school increase its beginning enrollment in the year immediately after this grant?

Secretary RIBICOFF. I think what you say, Mr. Springer, can be worked out. Basically, the whole philosophy and theory of this bill is based upon the expansion of teaching facilities to bring in new

students, the amounts to depend upon the incentive as to how many more new students will be brought in. I would say there that we certainly would be willing to sit down and work out a formula with you on that.

Mr. SPRINGER. I think here is, if not the most important one of the two or three most important things, Mr. Secretary, that should be included in this bill. If we are just going to pass out a lot of money based on the theory that we are going to increase quality alone, that is not a sufficient incentive for me to support this bill.

This I am reading from the bill at that time. This is section 806, subsection (2):

> Where a medical, dental, or public health school gives satisfactory assurance that the freshman enrollment will be increased by five per centum of the 1957–58 freshmen enrollment, the grant may be made in an amount not to exceed sixty-six and two-thirds per centum of the cost of construction.

That finally was put in the bill just based upon that one assumption, and it seems to me that that kind of a thing ought to be put in here.

Secretary RIBICOFF. Congressman Springer, the Association of American Medical Colleges has informed us that it is their considered opinion and judgment that should this bill pass they would be able to admit an additional 1,700 students each year which is absolutely essential if we are to do the job in America, just to keep even.

Mr. SPRINGER. What percentage would that roughly be, Mr. Secretary?

Secretary RIBICOFF. About 20 percent.

Mr. SPRINGER. That would be a 20 percent increase? 1,700 would be a 20 percent increase?

Secretary RIBICOFF. That's right. This would be what the present schools would be able to increase it.

Mr. SPRINGER. In other words, only about 8,500 people are in the medical schools at the present time?

Secretary RIBICOFF. About 7,500 graduates each year. More come in. About 8,200 freshmen enter. There is a certain amount of attrition from the entering class. Students drop out, but there are about 7,500 graduates.

Mr. SPRINGER. Mr. Secretary, just one more point and I am through. You may not have yet adopted any policy with reference to the distribution of funds and I don't know that I am particularly interested now as to how they are distributed, but there is to be some kind of a policy.

When we went over the country we found, for instance, that Stanford—I am just taking my recollection now—had about 1,600 square feet per student. This was just medical schools, not hospitals. At Georgetown they had 80 square feet per pupil. That is a tremendous discrepancy in the amount of space available per student in medical schools. I don't mean to say that Georgetown was doing any worse job than Stanford. It probably was doing every bit as good a job. The point I am making is, putting these statistics before you, in the grant of money do you intend to give substantially more to those schools which are, say, in the condition of Georgetown than you would in one such as Stanford? As I understand it, it is a question of space. It is equipment too, but it is substantially a problem of space in order to educate students.

What is going to be your policy with reference to grants?

Secretary RIBICOFF. The Surgeon General will issue these grants and there will be an advisory council set up who the Surgeon General will consult and advise with. That is set out in the bill. Each medical school or dental school will come with its plans and indicate what it intends to build.

It is estimated that a new medical school averages about $10 million, and they will take a list of priorities on where the need is greatest, how many new students will be taken into the school, and what the results will be. I mean, these are all factors that the Surgeon General and the advisory council will consider.

It is hard to lay down a complete set of standards until you examine each application as it comes in.

Mr. SPRINGER. I understand. I was trying to get your policy as to where the money was going substantially. If you have an institution which looks like it has substantial space to do the job, I take it that just because it was demanding money, it would not necessarily get it. That is the problem which I am talking about.

Secretary RIBICOFF. Of course I am not the Surgeon General or the advisory group, but if I were to hand it out or give the grants myself, I certainly would take into account that one might have an extravagant use of space that they could economize on against the other school that probably was doing a good job under very difficult circumstances.

Mr. SPRINGER. Just one thing further, and this is a difference I think between this bill—I have only read it roughly—and the 1955 bill. Are you proposing in this bill if you make a grant, that you are going to pay 100 percent on that building?

Secretary RIBICOFF. No, no; the maximum is two-thirds for new students. The maximum in this bill provides a two-thirds grant for additional teaching facilities to bring in new students. When it comes to renovation or obsolescence, it is up to 50 percent.

Mr. SPRINGER. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Roberts?

Mr. ROBERTS. Governor, first of all, I would like to compliment you on your statement. I think it is full, and clear, and to the point. I congratulate you on your appearance here before the committee. You mentioned one place that the Surgeon General's consultant group on nursing is due to make a report at a very early date. Soon, I believe you said. Could you give us any indication of when that report would be made?

Secretary RIBICOFF. The last indication is that they expect to be ready with their report in about 2 months' time.

Mr. ROBERTS. As you know, we are being pressed with a lot of legislation and if there is any way that that report could be made available at an earlier date I think it would give us a much better chance to try to get out some legislation at this session.

Secretary RIBICOFF. They have a tremendous amount of work to do. I will bring your comment to the attention of the chairman, Mr. Eurich, to see if it is possible to have that report sooner, but the last information that we have is that they would expect to be ready in about 2 months with their report.

Mr. ROBERTS. I certainly agree with your statement that there is a great need for additional nurses and I think that need is probably as great or greater than the one we are dealing with here. With reference to Mr. Springer's question as to the requirement—I think I know what he has in mind—that schools would guarantee to enlarge freshman classes by a certain number, I have examined that very carefully at hearings through the years and I am wondering if we might run into the danger of lessening the quality of the doctors we get and if we might not be better to take it on a matter of good faith as far as the schools are concerned and leave it up to them as to what they can do because they know better what facilities they have and the kind of doctors they can turn out, I think, better than if we laid down a hard and fast percentage requirement.

Secretary RIBICOFF. I think you make a very strong point because I think it would be tragic in a field such as medicine and dentistry to just give an incentive to quantity. I think quality is most important. We certainly don't want to be in the position of graduating people who don't have the qualifications in such an important field as health to take care of patients and we are definitely interested in quality and, as the figures indicate, there is a decline in the higher level students.

We do want both, and I have the utmost confidence in the good faith of every medical school in this country, and I am sure that if they accept these grants to expand their facilities they will in their application indicate how many more students they will be able to teach and handle and that they will live up to what they are to do, once they build these facilities. I would not question the good faith and the bona fides of the medical schools in this country, Congressman Roberts.

Mr. ROBERTS. I am glad to have that comment. One thing I have been concerned about is the trend or tendency in the direction of specialization and the concentration of doctors in large centers of population. I am wondering if you might not consider the fact that we should, instead of an outright grant, follow the precedent laid down in the National Defense Education Act, the Hill-Elliott bill, and make part of this money available on a loan basis.

It may be all right to make grants to those who have given assurance that they were going into the armed services, or in some other governmental activity, but it would seem to me that a young man who prizes his chance to enter the profession of the healing arts should be willing to pay that money back.

I think we could very well make it an interest-free loan until he reaches a point where he can get his equipment and get started, but it seems to me that we might get people who would sustain themselves if we allowed them to pay this money back. I would like to see some consideration of that point.

Secretary RIBICOFF. I think, Congressman Roberts, that the point you make is one of the best arguments for the scholarship grant instead of the loan, for this reason: There may be many men who go into these fields who would like to go into a poor community, a rural community, in the Armed Forces, or in the Public Health Service, but if they have to borrow and are deeply in debt and their compensation is much lower in the rural, poorer sections of our country, or in the Public Health Service, or in the armed services, the inclination

under those circumstances would be for them to go where they could make much more money. Thus, one of the reasons we have advocated the scholarship grant program, instead of the loan program, is to make sure that these people who go into the poorer paying parts of the medical profession would be encouraged to do so and not have hanging over their heads a heavy burden.

Mr. ROBERTS. I say that in those instances where they want to go into medical teaching, or they want to go into the Public Health Service, or give some assurance that they will spend so many years in the armed services, or in the Veterans' Administration, or in other places that we know are not well paid when you consider what a private practitioner makes, I could see making a grant. But it would seem to me if he is going into the private practice of medicine that he is a mighty good risk.

I am not as afraid of debt as a lot of people because most of everything I have, and that is not much, I owe for it or am paying on it, so I don't share the great fear of debt that is expressed in your statement, and I would like to see a proposition, say, along this line: loans which would be forgiven in proportion to the number of years spent in general practice in rural areas or in small communities or in teaching.

Let me say this, I have had this experience in my district: For several years we have tried to get a doctor in one of my county seat towns, now about, I suppose, 2,500 people. We had one doctor there and the people built him a clinic. They even gave him a cattle farm to start out with. We have had a pretty hard time keeping doctors in the small community and this particular community that I am thinking about is about 25 or 30 miles from a hospital, and it would seem to me that if the Government is willing to assure a man a chance to practice his profession, they ought to require from him some assurance that he is willing to make restitution of these funds by going into a small rural community or small town. I don't think my problem is just a problem in Alabama. I think it is all over. I would just like to have your opinion of that situation.

Secretary RIBICOFF. It would be very difficult to write a definition of where this would take place. I know some towns of 2,500 population that are very prosperous towns where a doctor has very, very high compensation for his services.

I would say this: Our preference is definitely for the scholarship grant. Should it be the desire of this committee to work out some loan provision, we would like the opportunity to sit down with the committee and its staff to work out a provision in such a way to make sure that we are not defeating our objective and try to accomplish what you seek to accomplish. One of the basic reasons for the scholarship is to make sure that if there is an inclination for a young man to come back to his own hometown to practice, that he feels he will come back debt free and not have to pay off $11, $12, or $13,000, or go to the big city or prosperous area where his compensation would be much higher.

These are problems, but if there is this inclination on the committee's part, we would hope to have the opportunity of sitting down with you to work this out most carefully so we could accomplish the result you seek to accomplish, Mr. Roberts.

Mr. ROBERTS. I want to ask you one question, and that is: Are you familiar with the loan program instituted in the State of Mississippi where loans granted by the State for medical education were forgiven in return for practice in rural areas?

Secretary RIBICOFF. I am not familiar with that.

Mr. ROBERTS. You mentioned the fact, and I think this is one of your strongest arguments, that there is definitely a shortage in the medical and dental profession and that we have coming into this country several hundred doctors, usually at the interne stage. Would you repeat that number? I believe you said 1,800.

Secretary RIBICOFF. It is very interesting, Mr. Roberts. In 1950 the number of graduates of medical schools outside the United States licensed for the first time was 458. In 1959 this number had gone up to 1,776. In other words, you had coming in from other countries 1,776 doctors, over 3 times as many as in 1950. This is also a great problem. Let me say that many of these countries as their prosperity increases will retain their own doctors in their own countries.

This would even make our problem worse. I mean these foreign doctors have helped keep the average up. What if there was a cutoff of these foreign doctors? This would make our problem so much worse in this country.

Mr. ROBERTS. Isn't it true also that we are going into many of the countries of the world and attempting to build up their economies and doing various things for them, and yet at the same time we are taking from them through this medium one of the most precious possessions they have, and that is medical personnel? We ought to be educating our own.

Secretary RIBICOFF. Not only educating our own, it would be my hope that a nation like this, instead of being an importer of doctors, would be an exporter of doctors. Now, along this line, while the United States has about 7,500 medical graduates a year, Russia has 27,000 a year. Keep in mind that their doctors aren't trained as well as our doctors.

They don't have the same length of training. I don't think their quality can compare with ours. But in many countries, in Asia or Africa, for example, where there are no doctors or very few, and where the medicine is not on the same standard as the United States, a Russian-trained doctor is very adequate in many of these countries. What we are finding internationally is that the Russian doctors are available to go in and be very influential, because when you bring healing and prevent death, you are making a great impact upon people of the world.

When you consider that the Soviet Union turns out 27,000 doctors a year to our 7,500, this becomes a great problem. It is my hope that some day we could be an exporter of doctors instead of an importer of doctors.

Mr. ROBERTS. I would not, of course, like to reflect on any of the doctors coming from other countries. I know some of them are very well qualified. I will put the question this way: Isn't is true that most of the schools in other countries do not meet the high standards of our American medical schools?

Secretary RIBICOFF. Let me put it this way: I don't think there is any question today that our medical schools are the best in the world.

The doctors, however, it must be kept in mind, that come from foreign countries must pass the State licensing requirements, and this would indicate that they have been able to satisfy by examination the requirements of the various States, which are high. But I don't think there is any question that medicine in the United States is superior medicine.

Mr. SPRINGER. Would you yield for one question?

Mr. ROBERTS. Yes.

Mr. SPRINGER. Along those lines, Mr. Secretary, would you tell the committee how many students we have studying in foreign countries?

Secretary RIBICOFF. I can't give you how many are studying, except in 1959, 366 American graduates of medical schools outside the United States and Canada received their licenses in the United States, so that might give you an indication. In other words, 366 Americans who had studied abroad, in 1959, came back to the United States, got their licenses, and are practicing medicine.

Mr. ROBERTS. That is all, Mr. Chairman. Thank you, Mr. Secretary.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Mr. Secretary, I would like to ask a few questions which I think are related to this bill. I have had some mail criticizing the Congress on the grounds that we did not appropriate as much money this year for cancer research as we did in prior years and, upon an inquiry and looking at the appropriations, I find that that is not true. I find that these appropriations have not been spent. Can you inform the committee as to why there has been a curtailment in this field?

Secretary RIBICOFF. There hasn't been a curtailment in this field. The amount that was finally made available was more money than the Appropriations Committee and you people in the House voted upon. The sum that is available for cancer research this year is approximately $25 million more than last year.

It has been the desire of the President to balance the budget. The President in an order to the various departments, including the department over which I preside, asked for a very close scrutiny of all our expenditures and we tried very carefully to scrutinize these and we effected a saving in our department overall, of some $102 million. But these savings were very, very carefully gone over to make sure that no basic program was curtailed or interfered with. If my memory serves me correctly, in the field of cancer there is available still, even with the overall curtailment, $25 million more for cancer research than there was available last year, so there is no curtailment.

Mr. YOUNGER. Did you curtail the expenditures for the balance of the year in cancer research?

Secretary RIBICOFF. We didn't increase it as much as it could have been increased, but we didn't curtail it, sir. We have more. If you so desire at this point in the record I will be pleased to give you a complete analysis of what was done with the $102 million cutback in the HEW new obligational authority, Congressman Younger.

Mr. YOUNGER. I would appreciate very much if that could go into the record, the savings in our appropriations so far as HEW is concerned of $102 million and where those cutbacks were made out from our appropriations.

The CHAIRMAN. If you can supply that information, it may be included in the record at this point.

(The information referred to above follows:)

1962 ECONOMIES

In October of last year, after Congress had finished its action on the 1962 budget, President Kennedy pointed out that it had become necessary to review the budget and effect economies. The President, therefore, requested each Department and agency to examine its programs, giving particular attention to expanding activities, with the objective of achieving the maximum possible economy within the appropriations provided. In response to this request and after a careful review of the department's programs, it was determined that approximately $102 million of the funds available in 1962 should not be used.

The application of this reduction to the 1962 appropriation was made on the basis of the following three considerations:

1. Due to changes in program circumstances and requirements, funds amounting to approximately one-third of the reduction would not be used irrespective of the need to effect economies.
2. No reductions were applied to any program involving the direct care of hospital patients, to any program of formula grants to States or communities, or to programs pertaining to defense preparedness; and
3. Reductions of $66 million were applied only to those remaining activities for which the 1962 appropriations provided an expansion over the 1961 program level, and these reductions were made uniformly by applying the same percentage factor to every affected program.

The distribution of the reduction by appropriation is shown in the following table.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Distribution of $102,000,000 in new obligational authority, fiscal year 1962

[In thousands of dollars]

	NOA reduction		Expenditure reduction
	Positions	Amount	
Food and Drug Administration: Salaries and expenses	58	1,146	1,120
Office of Education:			
Defense educational activities		19,004	309
Savings in 1961 balance brought forward		798	
Expansion of teaching in education of the deaf		337	12
Salaries and expenses	17	123	120
Cooperative research		352	326
Total, Office of Education	17	20,614	767
Office of Vocational Rehabilitation:			
Research and training		1,052	918
Salaries and expenses	5	40	39
Total, Office of Vocational Rehabilitation	5	1,092	957
Public Health Service:			
Buildings and facilities		10,000	500
Accident prevention	6	156	150
Chronic diseases and health of the aged	15	1,193	1,000
Communicable disease activities	22	233	220
Community health practice and research		202	175
Dental services and resources	6	100	95
Nursing services and resources	5	82	75
Hospital construction activities	6	1,883	1,150
Air pollution control	22	425	400
Milk, food, interstate and community sanitation	15	262	240
Occupational health	1	114	90
Water supply and water pollution control	33	1,337	1,170
BSS management fund	17		
Foreign quarantine activities	8	18	16
National Institutes of Health	307	60,400	33,500
National health statistics	10	147	140
Operations, National Library of Medicine	2	170	160
Salaries and expenses, OSG	4	46	44
Total, Public Health Service	479	76,768	39,125

Distribution of $102,000,000 in new obligational authority, fiscal year 1962—Con.

[In thousands of dollars]

	NOA reduction		Expenditure reduction
	Positions	Amount	
Social Security Administration:			
Salaries and expenses, Bureau of Public Assistance	10	96	95
Salaries and expenses, Children's Bureau	4	36	36
Grants to States for maternal and child welfare (research and demonstration projects in child welfare)		75	40
Cooperative research in social security		75	40
Salaries and expenses, Office of the Commissioner, (general funds)	4	34	32
Total, Social Security Administration	18	316	243
Office of the Secretary:			
Salaries and expenses	8	69	63
Salaries and expenses, Office of Field Administration	5	47	43
Surplus property utilization	1	11	10
Salaries and expenses, Office of the General Counsel	1	11	10
Juvenile delinquency and youth offenses	9	1,754	912
Total, Office of the Secretary	24	1,892	1,038
Other minor adjustments		4	
Total, Department of Health, Education, and Welfare	601	101,832	43,250
Revision in expenditure estimates:			
Grants for cancer research facilities			6,595
Hospital and medical research facilities			
NDEA student loan supplemental (technical adjustment to defer expenditures until students enroll in school)			16,155
Total expenditures	601	101,832	66,000

Appropriation histories from 1961 operating level to 1962 operating plan, National Cancer Institute

1961 operating level	$105,906,000
1962 President's budget	109,292,000
1962 House allowance	125,672,000
1962 Senate allowance	160,000,000
1962 appropriation	142,836,000
1962 operating plan	127,585,000
Increase in 1962 operating plan:	
Over 1961 operating level	21,679,000
Over 1962 House allowance	1,913,000

Secretary RIBICOFF. I will, but I do want to make a point that the final figure made available was still a substantial amount more than the House originally voted in its appropriations for this Department.

Mr. YOUNGER. Do I understand that what Congress finally appropriated is not going to be spent? Either you asked for too much, or a curtailment that you have made now from the appropriated funds is not warranted.

Secretary RIBICOFF. We didn't ask for too much. I mean the House voted much more than we asked for. The Senate voted much more than the House voted, and then there was a conference committee report and there was a certain amount curtailed in the final result. But what was made available was still much more than the House voted, which was more than we originally felt could be effectively spent.

In other words, the question here is one of effectiveness. Money is important, but to me only money that is spent effectively is important, Congressman Younger.

Mr. YOUNGER. What I want to do is try to get this out in the open because evidently the information given to the press and the stories

that have gone out to the public are a reflection back on Congress, not on the administration. It is the administration that has curtailed anything pertaining to these Health Institutes, it wasn't Congress, and we are getting the blame for it. We are getting letters all the time.

Secretary RIBICOFF. I didn't know that you were getting the blame. I thought I was getting it all, Congressman Younger.

Mr. YOUNGER. We are getting it.

Secretary RIBICOFF. But let me say this. We haven't curtailed, but you are entitled to that information and I will get it over to the committee and any particular question that you might like answered for your constituents we will be glad to supply to you, sir.

Mr. YOUNGER. Thank you very much. How many doctors are we sending to foreign countries through the foreign-aid program? Are we sending any?

Secretary RIBICOFF. Through the various programs about 120 to 125.

Mr. YOUNGER. Doctors that we are supplying through the foreign aid to the various countries?

Secretary RIBICOFF. That is right.

Mr. YOUNGER. Supposedly undeveloped countries?

Secretary RIBICOFF. That's right.

Mr. YOUNGER. Where do you get your figure of 27,000 doctors graduating each year in Russia?

Secretary RIBICOFF. This was a report made by the DeWitt committee and we would be pleased to put figures from the DeWitt report at this place in the record, their analysis of their study of what was happening in medicine in the Soviet Union.

(The report referred to above follows:)

(The following material is taken from DeWitt, Nicholas, "Education and Professional Employment in the U.S.S.R.," National Science Foundation, U.S. Government Printing Office, Washington, D.C., 1961. 856 pages.)

"Medical-health graduates in the Soviet Union, consisting primarily of physicians, accounted for about 9 percent of total graduations, as against 6 percent in the United States. It must be noted moreover, that the Soviet medical category excludes medical technicians and nurses (trained in semiprofessional schools), who are included in, and represent a sizable proportion of, U.S. medical field graduates; and also that Soviet graduates in this field include a much smaller proportion of pharmacists and other such specialists than is the case in the United States. If medical doctors alone are considered, the U.S.S.R. had a 4 to 1 advantage: physicians accounted for 8 percent of all Soviet graduates compared to 2 percent in the United States."

80014—62——4

TABLE IV-51.—*Structure of graduating classes in the U.S.S.R. and the United States*

U.S.S.R. 1959 [1] "diploma" graduations by field of study			United States, 1958 [1] bachelor's and 1st professional degree by field of study		
Field	Thousands	Percent	Field	Thousands	Percent
Grand total	338.0	100.0	Grand total	366.0	100.0
I. Engineering, all fields	108.6	32.2	I. Engineering, all fields (35.3) and ROTC programs (2.0).	37.3	10.2
II. Agricultural, including agronomy and animal husbandry, forestry, and veterinary medicine.	34.5	10.2	II. Agriculture (5.5), including agronomy and animal husbandry, forestry (1.3), and veterinary medicine (0.8).	7.6	2.1
III. Socioeconomic (economics, management, and jurisprudence).	25.0	7.4	III. Business and commerce (51.3), economics (7.5), and law (9.4).	68.2	18.6
IV. Educational-cultural, total	140.4	41.5	IV. Educational-cultural, all fields	229.6	62.7
1. University programs, total	37.6	11.1	1. Science majors: mathematical (6.9), physical (14.4), and biological (14.4).	35.7	9.7
Mathematical, physical, and biological sciences.	(21.0)	(6.2)			
2. Teacher training establishments	91.4	27.0	2. Education (teacher training establishments and education majors only).	82.9	22.7
Mathematics and science teachers	(40.0)	(11.8)			
3. Other cultural service fields	9.0	2.7	3. Humanities, languages, and social sciences—English and journalism (19.2), foreign language and literature (4.5), geography (0.8), social sciences (except economics) (40.7), psychology (6.9), philosophy (3.0), religion (8.8), home economics (4.3), library science (1.7), other miscellaneous (7.3).	97.2	26.5
4. Fine arts	2.4	.7	4. Fine arts (12.3) and architecture (1.6)	13.9	3.8
V. Health fields, total	29.5	8.7	V. Health fields, total	23.2	6.4
Physicians only	(27.0)	(8.0)	M.D.'s only	(6.9)	(1.9)
Engineering, science and applied science professions (excluding science teachers) (sum of I, II, IV-1, V).	191.0	56.6	Engineering, science, and applied science professions (excluding teachers-science majors) (sum of I, II, IV-1, V.).	87.7	23.9

[1] U.S. Department of Health, Education, and Welfare, Office of Education, "Earned Degrees Conferred by Higher Educational Institutions, 1957-58," Circular No. 570, Washington, D.C., U.S. Government Printing Office, 1959, especially pp. 5-9.

Sources: App. table IV-A-1-G. For distribution of university graduates in sciences, see discussion in text above.

Mr. YOUNGER. Why I asked this is, this magic figure of 27,000 seems to be coming up all the time. I have heard it bandied around that Russia graduates 27,000 engineers, or 27,000 physicists, and that figure of 27,000 creeps into the Russian propaganda all the time, whatever type of scientist.

Secretary RIBICOFF. This isn't taken from the Russian figures. It is the analysis by Americans who have studied the system over there. This is the only 27,000 that I know of, in the field of medicine. As to the engineers, I wish it were only 27,000 in engineers and scientists, which is much greater than 27,000, but I think it should be kept in mind that many more women go into the field of medicine there than we have. Their training is much shorter. They don't have as exhaustive and as full a training as we do.

I think the American system is the longest and the most disciplined of all medical training in the world. Yet, to treat simple diseases and epidemics, and where you don't have the same standards, the Russian system is adequate, even though it wouldn't live up to what Americans would expect from their doctors.

Mr. YOUNGER. Just to make the record clear, you are not advocating that the Federal Government ought to tell these youngsters what they should do and what they should study in college as Russia does their youngsters?

Secretary RIBICOFF. I have always been against that. My contention is that every American boy or girl should make up his own mind what he wants to do, where he will live, and what profession he will go into. I am for supplying opportunities to American boys and girls, young boys and girls of ability, to make sure that we don't lose the talent that we have. From there on, they can do what they want.

Mr. YOUNGER. That is all, Mr. Chairman.

The CHAIRMAN. With the indulgence of my Democratic colleagues, may I take this moment to extend a cordial welcome to our colleague, Mr. Kornegay, of North Carolina, who has just become a member of this committee and who is with us this morning for the first time. Mr. Kornegay, we are glad to have you now to become a part of this family and the membership of this committee. We welcome you to this tremendous responsibility that it has and the difficulties and many complexities that go with it, as well as the enjoyment and pleasure you will receive certainly on this committee from associating with these Members of Congress.

Mr. SPRINGER. Mr. Chairman, may I reciprocate for this side of the aisle and say we too welcome him to the committee and if he can stand us, we can stand him.

The CHAIRMAN. In view of that I know my colleagues would not mind if I go out of turn and give him an opportunity to ask the Secretary a question at this time. Do you have any questions you would like to ask of the Secretary at this time?

Mr. KORNEGAY. Mr. Chairman, I have no questions at this time, but I would like to say that I am delighted to be on this committee. It is a fulfillment of my committee ambition since coming to Congress to be associated with this wonderful group.

The CHAIRMAN. Thank you. We are glad to have you. We think that you have excellent judgment in your desire to become a member of this committee. That is the first expression that you will meet the requirements of a member of the committee. Mr. Friedel?

Mr. FRIEDEL. I want to also welcome Mr. Kornegay as a member of this committee. You will find out there will be many a meeting when you will never be heard because by the time they get to you the meeting will have adjourned.

Secretary RIBICOFF. I want to compliment you on your very, very fine statement and I want to tell you that there is a great deal of sentiment for this House bill H.R. 4999 in Baltimore and in Maryland.

I have a report here of the State of Maryland Planning Commission, devoted to this bill. They are in favor of it and I would just like to quote one little thing they say. The fourth major recommendation on pages 1 to 9 cites the fact that "increased scholarship and loan funds are desperately needed." They are in favor of this 100 percent. We have some most outstanding doctors and laymen in the city of Baltimore and State of Maryland who worked on this bill for months. They intend to testify and they will be here tomorrow and Thursday, and the rest of the week if necessary.

I am in accord with this bill and I think that it is a very, very good bill. Maybe there might be a few minor amendments to take care of, but I think it is a step in the right direction.

Secretary RIBICOFF. Thank you very much, Congressman Friedel.

Mr. FRIEDEL. That is all Mr. Chairman.

The CHAIRMAN. Mr. Collier.

Mr. COLLIER. Mr. Secretary, this legislation deals with medicine, dentistry, and osteopathy. Is there some particular reason why optometry is omitted?

Secretary RIBICOFF. Yes. We have tried to handle the three fields where there is the greatest shortage, the greatest national need, and where the surveys have been made and the factors are there, knowing where we stand. There are many other fields where there are problems, but we have to start somewhere, sir, and I think at this time we are trying to start where the greatest problem exists.

Mr. COLLIER. I would conclude that there apparently is no shortage of professional help in the field of optometry.

Secretary RIBICOFF. This I don't know. Dr Terry.

Dr. TERRY. We don't know, sir.

Secretary RIBICOFF. Most of our data are based on exhaustive surveys and studies. To my knowledge there hasn't been one in the field of optometry, and I don't have the knowledge or the facts to properly answer you, sir. That is why we come in the fields that had been surveyed and studied, and where we know that a need definitely exists.

Mr. COLLIER. What increase in enrollments could existing facilities in the various medical schools accommodate?

Secretary RIBICOFF. At the present time without the expansion of medical facilities they couldn't accommodate any more. In other words, my understanding is that every medical school has students to the upper limits of its capacity to handle.

Mr. COLLIER. There are none then that could handle more students if in fact they had the enrollees?

Secretary RIBICOFF. That is correct.

Mr. COLLIER. Mr. Secretary, on page 2 there is a statement I wanted clarified with reference to the fact that a greater amount, you might say, of medical care is given to children 1 to 15 and those people over

65. Do the statistics actually show that less medical care was rendered to that portion of our population from 16 years to 64 years than from 1 to 15 and over 65?

Secretary RIBICOFF. They don't need it, sir. I think generally the need for treatment and medical care is more prevalent among children and the aged than those of us in the middle years, and this is the reason for the statistics. Dr. Terry is here, the Suregon General, and he could amplify that as a doctor.

Mr. COLLIER. In view of the segment of the population in those age categories I would be inclined to question whether or not this is a factual statement. From 1946 to 1950, and I have some personal recollection is, it became extremely difficult for young men to get into the medical schools, principally, as I recall, because the academic grades which they were required to submit from their high schools had to be exceedingly high. Whether or not the medical schools at the present time maintain the same yardstick for determining enrollment I don't know, but is it possible in your opinion that because of the almost restrictive qualifications for enrollment this may have contributed to the dropoff in the number of students who in the years that followed chose to enroll in the medical school?

Secretary RIBICOFF. The years you were talking about, Congressman Collier, were the years when you had applicants in the 20,000's. Now your applications are in the 14,000's. Naturally the schools with more applicants would pick what they considered the best students and the figures that I cited you were that in the year 1950. That year 40 percent of the entering class were A students, whereas, in 1960 only 13 percent were A students, so you do see that the A students are dropping off in the percentages that enter medical schools.

Naturally a medical school wants to get—and I thing they are right—the best qualified students that they can to be our future doctors and dentists, and the number they will take and admit will depend upon the number of applicants and their qualifications.

Mr. COLLIER. To your knowledge, Mr. Secretary, has there been a relaxation in more recent years of the basic qualifications and academic standards from high schools than there were during those years previously?

Secretary RIBICOFF. No; I think the same thing applies even to the high school and college. As you have more and more high school students seeking admission to college I think the colleges are doing the same thing. They are taking the more able students. I think it is the reverse that holds true because I think that you have to have better grades today in high school to get into college than you had to have 15 or 20 years ago, but today you can get into medical school with lower grades than you could 10 or 15 years ago. I mean the opposite is taking place.

Mr. COLLIER. Do you think, and I pose this strictly as a question for my own edification, that we might be going a bit far afield in all phases of higher education by placing the premium upon the A student and possibly sacrificing some good students who might have been B and C students in high school, but who, in fact, are talented and who have ability?

Secretary RIBICOFF. I would say it is most interesting that there is a realization in the field of education today that college boards and

grades are not the only indicator. There are many colleges in the United States who are deeply concerned with just what you are saying, the so-called late starter, the young man who might have come from a high school where his training wasn't as good as in other communities, but who has good native ability and good intelligence.

I have had a number of college admissions deans telling me that they are much more selective in looking at these students to see where here and there they could get a C student who for some reason or other could do better work, but hasn't, and they have had very good luck with their selectivity. This is being done at some of the leading schools in the country, including West Point, Harvard, and other universities where the entrance requirements are very strict.

Mr. COLLIER. Mr. Secretary, adding to your own statement on page 4 stating the number of years that a student and a postmedical student must spend before he actually starts his practice, might I submit that you omitted 2 additional years in almost every case that these young men have to put in, in the military, which adds to the number of years that they must wait until they have any return from their profession.

Just one other question: Has any thought been given in the approach to this problem of the cost of higher education, and I say this as one who has two youngsters of my own in college, though certainly not in my own behalf, to provide some tax incentive that would be to some degree, certainly, an answer to parents, shall we say, who have incomes of less than $10,000 a year, but who are faced with sending one, two, or three students to college. Maybe if we looked at this problem of the cost of higher education through providing a tax incentive in excess of the totally unrealistic $600 figure which apparently is allowed today for a dependent, we might relieve the burden in that manner.

Secretary RIBICOFF. There have been many bills to this effect introduced before Congress. Of course they are before the Ways and Means Committee and have arguments for and against. Personally, I am sympathetic towards something, worked out along this field, something being done by way of tax incentive to encourage people sending their youngsters to college, but the matter to my knowledge has never come out of the Ways and Means Committee.

Mr. COLLIER. Since I introduced such a bill I hope that the Secretary, if it ever gets to a hearing, will offer his wholehearted support. That is all I have. Thank you, Mr. Secretary.

The CHAIRMAN. Mr. Rhodes.

Mr. RHODES. Thank you, Mr. Chairman.

Mr. Secretary, I too want to commend you for your statement and also for your efforts in this field which I believe have widespread public support. You said, Mr. Secretary, that Federal grants would not exceed 50 percent for the cost of construction. Would this apply also to construction of research facilities?

Secretary RIBICOFF. What I said was two-thirds for new facilities. This bill provides two-thirds on new facilities and 50 percent for renovation of obsolescent existing facilities. Where there won't be any new students added is 50 percent, not two-thirds. The amount we have in the bill is $15 million available for renovation and $60 million for new facilities.

The two-thirds money is $60 million and the 50 percent is $15 million. The research facilities is 50 percent in the measures that Congress has already adopted.

Mr. RHODES. What about the schools of public health which train doctors and other skilled people for public health service?

Secretary RIBICOFF. They are not covered for scholarships in this bill, but they are covered in this bill for construction on the same basis as medical and dental schools. In other words, a school of public health if it applies to admit new students would be entitled to two-thirds matching; if for renovation and taking care of obsolescence, up to 50 percent.

The scholarship provision isn't there because at the present time students who go to public health schools have other scholarship provisions made available to them.

Mr. RHODES. Thank you, Mr. Secretary.

Secretary RIBICOFF. It is the Rhodes Act?

Mr. MOULDER. Will the gentleman yield?

Mr. RHODES. Yes.

Mr. MOULDER. Mr. Secretary, I regret I wasn't here for your testimony, but just one question. Have you made a statement of what the medical scholarship cost will be under the program for the 10-year period?

Secretary RIBICOFF. Yes. You will find it in appendix A (see insert on p. 20), Congressman Moulder. The dollars on the scholarship would be 5,100,000 the first year.

The CHAIRMAN. What page is that?

Secretary RIBICOFF. I am reading the statistics to you that I have here.

The CHAIRMAN. That is all right.

Secretary RIBICOFF. The breakdown is in appendix A, but running through the summary, it would be $5,100,000 the first year, $10,200,000 the second year, $15,375,000 the third year, $20,625,000 the fourth year, and the fifth year it would be $21 million. It is a 10 year authorization. We have broken it down for the first 5 years, and then it would stabilize from there on.

The CHAIRMAN. Stabilize at $21 million a year for the next 5 years?

Secretary RIBICOFF. Yes, sir.

The CHAIRMAN. That would be the maximum cost?

Secretary RIBICOFF. Yes, sir. It would go up a little bit as you got more schools coming in and they had more students and if they got 25 percent of their student body it would increase it, but basically our estimate is it will be $21 million in the fifth year, and it would go up a little bit after that depending on how large the schools were.

The CHAIRMAN. Mr. Devine.

Mr. DEVINE. Mr. Secretary, this 5-year program, based on the figures you have given, totals $72,300,000, I believe, your estimate in the first 5 years.

Secretary RIBICOFF. No; we are not talking about the scholarship provision. We are only talking about that. If you want to know the total of the entire program——

Mr. DEVINE. Yes.

Secretary RIBICOFF (continuing). The first year the entire program, including grants, planning grants, and scholarships, would be $34,352,000.

Mr. DEVINE. For what purpose?

Secretary RIBICOFF. That is for the entire program, construction grants, planning grants, and the scholarship program. It would be $34,352,000 the first year, $92,900,000 the second year, $101,525,000 the third year, $110,275,000 the fourth year, and $110,900,000 the fifth year.

Mr. DEVINE. Have you totaled the entire thing on a five-year program?

Secretary RIBICOFF. The total amount for the 5 years would be $600,800,000.

Mr. DEVINE. Mr. Secretary, what new taxes or additional taxes do you propose be enacted on the American people to finance the program?

Secretary RIBICOFF. Let me say this: The President's budget takes into account the cost of this for this coming year. I would assume as each budget is developed the figures that you have here will be folded into the budget and arrangements will be made for tax revenues and expenditures. It would be my hope that we would have a sufficient acceleration in the growth of this country to take care of our basic needs without new taxes.

Mr. DEVINE. You anticipate no new taxes, but you are depending on the same theory that the President does that our increased gross national product, and so forth, will provide for this without new taxes?

Secretary RIBICOFF. I do.

Mr. DEVINE. Directing your attention to the top of page 4 of your statement you say:

> Although the number of college graduates is going up sharply every year, the number of applicants for medical and dental schools is actually falling.

You give several reasons for that but I notice that you say nothing in connection with this particular fact, that perhaps some of the proposed applicants to medical and dental schools are being discouraged from going based on the type of legislation that is being introduced in the Congress and has for the last 4 or 5 years, very frankly, the fear that we are getting into perhaps socialization in the medical field and for that reason they are not interested in getting into medicine. Do you think there is anything to that at all?

Secretary RIBICOFF. I don't think there is anything to that at all, because I don't think we are getting into socialized medicine, sir.

Mr. DEVINE. I am sure you don't think we are but a lot of people that have been in medicine or perhaps thought they would go into medicine have that very real fear as expressed in many letters.

Secretary RIBICOFF. I would say that the doctors are doing pretty well, and I think doctors will continue to do pretty well. I think that what you have is competition from the other professions where the cost of an education isn't as high and the year span isn't as high.

Mr. DEVINE. On this influx of so-called foreign-trained medical people, has there been a great influx from Great Britain in the last few years?

Secretary RIBICOFF. I don't have the breakdown of countries, but I would be pleased to insert it. I have the overall from all the nations, but I don't have the breakdown country by country as to where they come from.

Mr. DEVINE. The reason I asked is we in Congress received mail in the last 30 days indicating what they say is a wholesale exodus from England and Great Britain and coming to this country.

Secretary RIBICOFF. This is new to me.

Mr. DEVINE. You have no figures either.

Secretary RIBICOFF. We will get the breakdown of where these doctors come from for you and we will put them in the record.

Mr. DEVINE. I would appreciate it.

Secretary RIBICOFF. We will get that to you.

(The information referred to appears on pp. 69, 70.)

Mr. DEVINE. Thank you. That is all, Mr. Chairman.

The CHAIRMAN. It is now almost 12 o'clock. The House will be in session and I am sure there will be a quorum call in a few minutes after the House is in session. We have an important bill scheduled for consideration by the House and therefore we will be unable to meet this afternoon. There are a number of members of the committee who have not had an opportunity yet to ask questions of the Secretary.

Would it be convenient for you to come back at 10 o'clock tomorrow morning, Mr. Secretary?

Secretary RIBICOFF. I will make it convenient, Mr. Chairman.

The CHAIRMAN. Very well. The committee will adjourn until 10 o'clock tomorrow morning at which time we will start with you, Mr. Jarman, and Mr. Nelsen, you will follow.

(Whereupon, at 12 m., Tuesday, January 23, 1962, the committee adjourned, to reconvene at 10 a.m., Wednesday, January 24, 1962.)

TRAINING OF PHYSICIANS, DENTISTS, AND PROFESSIONAL PUBLIC HEALTH PERSONNEL

WEDNESDAY, JANUARY 24, 1962

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The committee met at 10 a.m., pursuant to recess, in room 1334, New House Office Building, Hon. Oren Harris (chairman of the committee) presiding.

The CHAIRMAN. The committee will come to order.

This morning we continue hearings on H.R. 4999 and related bills, providing for a program of training additional physicians, dentists, and professional public health personnel.

We appreciate having the Secretary of Health, Education, and Welfare back with us this morning. We realize the great interest in this proposal and, as the Secretary said yesterday, insofar as the President and the Department are concerned this legislation is of high priority.

Mr. Secretary, I think it is highly important for the committee to be correctly informed as to how the new medical school program dovetails with other Federal programs in this field. We want to be certain that there is no unnecessary overlapping or duplication. You mentioned yesterday that scholarships and fellowships are available under other Federal programs for science students. We would like you to supply for the record what the programs are and under what terms and conditions the scholarships are available.

I believe you have supplied this information to another great committee of the Congress. We would also like to know which of the agencies grant such scholarships. Are they given to the schools or to students, and just how are they administered?

We would like to know whether or not there are loans available to students, what the forgiveness features are, if any, in connection with such loans, and to what extent such loans have been made available to medical students.

STATEMENT OF HON. ABRAHAM RIBICOFF, SECRETARY OF HEALTH, EDUCATION, AND WELFARE; ACCOMPANIED BY WILBUR J. COHEN, ASSISTANT SECRETARY; BOISFEUILLET JONES, SPECIAL ASSISTANT TO THE SECRETARY, HEALTH AND MEDICAL AFFAIRS; AND DR. LUTHER L. TERRY, SURGEON GENERAL, PUBLIC HEALTH SERVICE, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE—Resumed

Secretary RIBICOFF. Mr. Chairman, we certainly will be able to supply the information you ask. We will make a compilation along this line and, if we may, present it in a very short time to you.

The CHAIRMAN. Yes. I knew you would not have the information this morning, but I wanted to get it in the record so that you could supply it for the information of the committee. I think the record should contain complete information in this regard, and I am sure other members of the committee share this feeling with me, since undoubtedly questions will be asked of us by the Members of Congress when the bill goes to the floor, or even when we go to the Rules Committee for a rule.

(The information referred to follows:)

FEDERAL FELLOWSHIPS AND LOANS

GRADUATE FELLOWSHIPS AND TRAINEESHIPS [1]

Graduate fellowships and traineeships are made available by a number of Federal agencies. Most are from four agencies—Office of Education, the Public Health Service, the Atomic Energy Commission, and the National Science Foundation. In general they provide stipends of between $1,800 and $2,500 a year, plus dependents' allowances, for a wide variety of fields of study, including medical research, but excluding study leading to the M.D. or D.D.S. degree. The student's tuition usually is paid. None of the fellowship programs require repayment.

National defense fellowships (National Defense Education Act)

The part of the National Defense Act providing for federally financed graduate fellowships had two objectives: The first was to increase the supply of trained college and university teachers; the second was promotion of a wider geographical distribution of facilities for graduate study.

Congress specified that the Commissioner of Education should award fellowships to students who had been accepted for study in particular graduate programs approved by the Office of Education at particular institutions. The programs approved were to be "new or expanded" and were to "substantially further the objective of increasing the facilities available in the Nation for the graduate training of college and university teachers and of promoting a wider geographical distribution of such facilities throughout the Nation." Moreover, applicants were to be given preference if they expressed an interest in going into college or university teaching.

The act provided for 1,000 fellowships the first year and 1,500 in each of the 3 succeeding fiscal years. Since the fellowships run for 3 years, 4,500 students will be supported simultaneously at the height of the program. During the first 4 years of its operation, the graduate fellowship program has enabled 5,500 students to pursue graduate work in preparation for college teaching careers.

The fellows receive stipends of $2,000 for the first year; $2,200 for the second; $2,400 for the third year: plus $400 a year for each dependent. These amounts are supposed to be sufficient to cover living expenses; indeed, fellows are not permitted to hold paying jobs during the academic year except for limited part-time research and teaching commitments at their institutions.

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[1] Grateful acknowledgment is made to the book by Alice M. Rivlin, the "Role of the Federal Government in Financing Higher Education," published by the Brookings Institution in 1961.

In addition to the stipends paid the fellows, the act authorized the Government to compensate the institutions for the added cost of the fellows' education, up to $2,500. The cost-of-education payments to the schools have averaged just under $2,500, usually including tuition, with the average actual cost to the institutions running around $3,400.

Technically, the national defense fellowships are awarded to individuals by the Commissioner of Education, but, in practice, the Commissioner has relied on the institutions to select the fellows.

TABLE 1.—*Distribution of national defense fellowships, by field of study, 1962*

Field of study	Number	Percent
Humanities	316	21
Education	144	10
Social sciences	373	25
Biological sciences	240	16
Physical sciences	255	17
Engineering	172	11
Total	1,500	100

Source: U.S. Office of Education, "Approved Programs and Fellowships." [National Defense Education Act. 1959-62] Jan. 15, 1962.

Public Health Service—National Institutes of Health fellowships

At present, NIH offers half a dozen different types of fellowships. Research fellowships are awarded to predoctoral, postdoctoral, and special students in the basic and clinical health sciences. These are designed to allow the recipient to spend full time on research, or training for research, for the duration of the fellowship. Most of these fellowships are for a year, but some are for longer periods. The predoctoral fellowships are renewable as long as the fellow is making satisfactory progress toward his degree. The predoctoral fellowships carry stipends of $1,800, $2,000, and $2,200, plus dependency allowances and tuition, for the first year, the intermediate years, and the terminal year, respectively. The postdoctoral and special fellowships are more generous. Some "senior research fellowships" and "foreign research fellowships" are also awarded. Moreover, qualified students in medical and dental schools are encouraged to drop out of regular course work for a period of 1, 2, or 3 years to do scientific research on a "postsophomore research fellowship" from NIH. In all, over 3,000 full-time fellowships were awarded by NIH in fiscal year 1961.

In addition to the full-time fellowships, about 1,200 part-time fellowships were awarded in 1960 for student research in schools of medicine, osteopathy, dentistry, public health, and nursing. These fellowships ($600 each, plus an allowance to the institution for indirect costs) are not awarded directly to the students by NIH. Rather, a certain number are allocated to each qualifying institution which requests them, and the institution is allowed to use the funds to compensate students for time spent on research—either part time during the regular term or full time for 2 or 3 months. The main aim is to orient the students toward research while they are still in school in the hope of attracting them to research careers.

TABLE 2.—*National Institutes of Health fellowship awards, by type of fellowship, fiscal year 1961*

	Awards
Full time	3,051
Predoctoral	1,128
Postdoctoral and special	1,331
Postsophomore	116
Senior	334
Foreign	98
Other full time	44
Part time	1,154
Total	4,205

NOTE.—Includes renewals.

Source: National Institutes of Health, Division of Research Grants.

Another type of support provided by NIH is substantial training grants made to schools of medicine, dentistry, public health, and osteopathy, and to other university departments with graduate programs in the health and biological sciences. In general, these grants are used for two purposes. They pay operating expenses (including faculty salaries) of special programs designed to train students for research, teaching, or clinical work related to cancer, heart disease, mental health, and other specific health areas; and they pay stipends (traineeships) to students in these programs. The institutions are allowed to select the trainees and determine the level of stipends. These stipends of full-time trainees are generally sufficient to allow the trainee to devote himself to his training without support from other sources. The amount varies widely from program to program. Over 11,000 trainees now receive full-time or part-time support under this program.

Public Health Service—Bureau of State Services

The Public Health traineeships program (title I), established in 1956, authorizes the Surgeon General to award traineeships for graduate or specialized public health training either (1) directly to individuals whose applications have been accepted by the public or nonprofit institution providing the training, or (2) through grants to such training institutions. The primary aim of the program is to bring new people into the field of public health by providing postgraduate training opportunities for men and women who have completed their basic professional education.

Six hundred and seven doctors, nurses, sanitary engineers, and other professional workers were awarded such traineeships during the fiscal year 1961, most of them for 12-months' training. The program pays student stipends of $4,800 for postdoctoral trainees; $3,600 for post-masters; $3,000 for post-bachelor; and $2,400 for pre-bachelor. An additional $360 is allowed for each legal dependent as well as some allowance for travel. The actual cost of tuition and fees is also paid in addition to the student's stipends.

The professional nurse traineeship program (title II), also established in 1956, is designed to improve the quality of patient care by increasing the number of graduate nurses with preparation for positions as administrators, supervisors, and teachers in hospitals and related institutions, public health agencies, and schools of nursing. The program provides: (1) long-term traineeships for full-time academic study in universities and colleges; and (2) traineeships for short-term study in intensive training courses sponsored by certain public and nonprofit institutions. All traineeships are awarded by the institutions.

The long-term traineeships, for a maximum of 12 months, provide—

(*a*) Tuition and fees as established by the school;

(*b*) Stipends ranging from $200 to $300 a month during the period of study, plus dependency and travel allowance.

Traineeships for short-term intensive study (often for only 3 or 4 days) are awarded for the study in short-term courses approved by the Division of Nursing of the Public Health Service. Such a traineeship provides tuition and fees and in some cases a daily stipend. For the fiscal year 1960 there were 1,614 long-term academic trainees and 2,366 short-term intensive course trainees.

Atomic Energy Commission

The Atomic Energy Commission has several specialized programs designed to train scientists in particular fields closely related to atomic energy. These fields include reactor technology, health physics, radiation control, and the special industrial medicine and hygiene problems of the atomic energy industry. The AEC has arranged for particular universities to offer instruction to graduate students in these fields, often in conjunction with on-the-job training at an AEC installation. Stipends of various sizes and allowances for dependents are provided, and AEC pays tuition or its equivalent to the universities. The largest program involves 150 special fellowships in nuclear science and engineering—mainly reactor technology—offered at 48 participating institutions. Seventy-five fellowships are offered at six institutions for a year of graduate study in health physics, combined with 10 weeks of special training at an AEC installation.

National Science Foundation fellowships

The act of Congress establishing the National Science Foundation in 1950 specifically directed the NSF to support scientific education by awarding graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences.

There are now nine student-support programs administered by the Foundation. The numbers of students aided under these programs totaled over 4,000 in 1961, as shown in table 3.

TABLE 3.—*National Science Foundation fellowships awarded for fiscal 1961*

Program:	*Awards*
Postdoctoral	180
Senior postdoctoral	75
Secondary school teachers (summer)	500
Science faculty	285
North Atlantic Treaty Organization	41
Organization for European Economic Cooperation	27
"Regular" graduate	1,200
Cooperative graduate	1,190
Teaching assistants (summer)	580
Total	4,078

Source: U.S. National Science Foundation press releases.

Each of the nine programs has a somewhat different objective. The postdoctoral fellowships for advanced study or research are for scientists who have recently completed graduate work, and the "senior" postdoctoral fellowships are for those who have had doctorates for 5 years or more. The NSF fellowships for science teachers give such teachers a respite from instructional duties in which to improve their capacity for stimulating teaching by engaging in further study and research. There are fellowships for college faculty as well as summer fellowships for secondary schoolteachers of science. The NSF also administers two programs, paid out of the State Department budget, which enable American scientists to do advanced work in European institutions. These are the North Atlantic Treaty Organization postdoctoral fellowships and the Organization for European Economic Cooperation senior visiting fellowships in science. Both the "regular" graduate fellowships and the cooperative graduate fellowships support predoctoral students in the sciences, and the summer fellowships for teaching assistants are designed to make the holding of teaching assistantships more attractive to graduate students.

All NSF fellowships carry stipends designed to cover essential living expenses in an academic community and allow the holder to devote full time to his studies for the duration of the fellowship. The regular graduate fellowships, for example, pay $1,800 to first-year students, $2,000 in subsequent years, and $2,200 in the terminal year—plus modest allowances for dependents and necessary travel. The cooperative graduate fellowships pay $2,200 (without allowances) to which the institution may, if it so desires, add as much as $800. Under the graduate program, NSF pays tuition and all necessary fees incurred by the fellows. Under the cooperative graduate program the institutions receive standard cost-of-education payments ($1,800 per fellow) in lieu of tuition and fees. Teaching assistants on summer fellowships get $50 to $75 a week for the summer session, plus tuition and fees.

The National Science Foundation Act specifies that fellowships shall be awarded "solely on the basis of ability," except that, where several candidates are considered by NSF to be of "substantially equal ability" and they cannot all be awarded fellowships, the available fellowships shall be "awarded to the applicants in such a manner as will tend to result in a wide distribution of * * * fellowships among the States, territories, possessions, and the District of Columbia."

LOAN PROGRAMS

The only Federal loan program for students is the national defense student loan program.

Over 1,300 institutions of higher education participate in this program. The Government contributes up to 90 percent of the capital of these student loan funds, while the institutions put in the remainder. The Federal funds are distributed among the States on the basis of full-time enrollment in higher education. But, within each State, funds are distributed to participating institutions in proportion to their requests for them. The Commissioner of Education has worked out an informal system whereby institutions may be asked to scale down requests which seem unreasonably large in proportion to their enrollment. The law has placed a ceiling of $250,000 on the Federal contributions to the loan fund at any single institution.

Both undergraduates and graduate students are eligible to borrow so long as they are full-time students in good standing and need the money to complete their studies. An individual student may borrow up to $1,000 a year for 5 years, or $5,000 in total. The institutions make their own selections among applicants for the loans, but the act provides that "special consideration shall be given to (*a*) students with a superior academic background who express a desire to teach in elementary or secondary schools, and (*b*) students whose academic background indicates a superior capacity or preparation in science, mathematics, engineering, or a modern foreign language." However, nothing is said about the courses these students shall pursue after they get the loans.

The loans bear interest at 3 percent, beginning 1 year after the borrower ceases to be a full-time student at the institution. They are to be repaid in periodic installments over a 10-year period. Payments of both interest and principal may be suspended while the borrower continues full-time studies at another institution or serves in the Armed Forces. A student who borrowed to complete his undergraduate education, then spent 3 years in the Army and 4 years as a graduate student, would have been out of college 7 years before he was obligated to make payments on his loan. As an inducement to students to go into teaching the act provides that part of the repayment obligation may be forgiven if the student becomes an elementary or secondary school teacher. In the language of the act, an amount "not to exceed 50 per centum of any such loan (plus interest) shall be canceled for service as a full-time teacher in a public elementary or secondary school in a State, at the rate of 10 per centum of the amount of such loan plus interest thereon, which was unpaid on the first day of such service, for each complete academic year of such service."

Graduate and professional students represented about 12 percent of the borrowers. The average size of loans to all students climbed from a little over $330 in 1959 to about $450 in 1961. Graduate students have tended to borrow somewhat more, on the average, than undergraduates (table 4). Approximately half of the loans approved in fiscal years 1959 and 1960 went to students who had been given special consideration because they expressed a desire to teach.

In the fiscal year 1961, about 3,000 loans were approved for students enrolled in medical schools. These students include a few who are not candidates for M.D. degrees. In all, about one-tenth of all medical students were receiving such loans. The average amount of these loans was $644.

Substantial numbers of undergraduate college students now receiving loans have indicated that they intend to go on to medical or dental school. Because of the 5-year limit on receiving loans, an increasing proportion of medical and dental students will, in coming years, no longer be eligible for loan benefits by the time they reach the second and third year of medical or dental school.

TABLE 4.—*National defense student loans approved, by level and average amounts, fiscal year 1960*

Level	Number	Average amounts
Entering freshmen	30,180	$469
Other undergraduates	76,193	485
Graduate and professional	12,627	615
Total	119,000	495

Source: U.S. Office of Education, "The National Defense Student Loan Program: A 2-Year Report," pp. 18-19.

SUMMARY

Graduate fellowships and traineeships, which do not require repayment, are available from the following Federal agencies: The Office of Education and the Public Health Service of the Department of Health, Education, and Welfare; the Atomic Energy Commission; and the National Science Foundation. Few of the fellowships, however, are available to students who are candidates for the M.D. or D.D.S. degrees.

The National Defense Education Act (Office of Education) provides the only Federal loan program. Medical and dental students are eligible to apply for these low-interest, long-term loans, within the limits of time and amount established.

The CHAIRMAN. Then we should like to know about payments made to medical schools under existing programs for teaching in particular fields, such as heart, cancer, or mental illness. I should like you to give us complete information on grants for, say, about 5 years. I think that would indicate the trend pretty well.

(The information referred to follows:)

Undergraduate training grants supported by the National Institutes of Health for fiscal years 1957–61

Institution	Total	National Cancer Institute						National Heart Institute						National Institute of Mental Health					
		Total	1961	1960	1959	1958	1957	Total	1961	1960	1959	1958	1957	Total	1961	1960	1959	1958	1957
ALABAMA																			
University of Alabama	$405, 118																		
Medical College	380, 978	$125, 000	$25, 000	$25, 000	$25, 000	$25, 000	$25, 000	$124, 988	$24, 997	$24, 997	$24, 997	$24, 997	$25, 000	$130, 990	$25, 576	$25, 288	$25, 384	$25, 288	$29, 454
School of Dentistry	24, 140	24, 140	5, 000	5, 000	5, 000	5, 000	4, 140												
ARKANSAS																			
University of Arkansas Medical Center	381, 057	124, 955	24, 991	24, 991	24, 991	24, 991	24, 991	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	131, 102	25, 480	25, 480	25, 496	25, 288	29, 358
CALIFORNIA																			
University of California	862, 303																		
Medical Center (Los Angeles)	381, 015	124, 999	25, 000	25, 000	25, 000	25, 000	24, 999	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	131, 016	25, 576	25, 558	25, 560	25, 062	29, 260
School of Dentistry	24, 818	24, 818	4, 997	4, 957	4, 957	4, 939	4, 968												
Medical Center (San Francisco)	381, 470	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	131, 470	25, 576	25, 576	25, 576	25, 288	29, 454
School of Public Health	75, 000							75, 000	15, 000	15, 000	15, 000	15, 000	15, 000						
College of Osteopathic Physicians and Surgeons	328, 652	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	78, 652	15, 288	15, 288	15, 288	15, 288	17, 500
Loma Linda University	342, 676																		
School of Medicine	317, 676	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	67, 676	13, 614	13, 506	12, 993	12, 788	14, 775
School of Dentistry	25, 000	25, 000	5, 000	5, 000	5, 000	5, 000	5, 000												
University of Southern California	406, 089																		
School of Medicine	381, 089	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	131, 089	25, 576	25, 576	25, 576	25, 288	29, 073
School of Dentistry	25, 000	25, 000	5, 000	5, 000	5, 000	5, 000	5, 000												
Stanford University Medical Center	380, 285	123, 815	24, 852	24, 998	24, 993	24, 832	24, 140	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	131, 470	25, 576	25, 576	25, 576	25, 288	29, 454

COLORADO																			
University of Colorado, Medical Center	380,990	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	130,990	25,480	25,480	25,480	25,288	29,262
CONNECTICUT																			
Yale University	456,917	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
School of Medicine	379,417	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	129,417	25,480	25,480	24,118	25,240	29,099
Department of Public Health	77,500	------	------	------	------	------	------	77,500	15,000	15,000	15,000	15,000	17,500	------	------	------	------	------	------
DISTRICT OF COLUMBIA																			
Georgetown University	406,278	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Medical School	381,278	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	131,278	25,576	25,576	25,576	25,288	29,262
Dental School	25,000	25,000	5,000	5,000	5,000	5,000	5,000	------	------	------	------	------	------	------	------	------	------	------	------
George Washington University Medical School	380,942	124,904	24,904	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	131,038	25,576	25,576	25,432	25,288	29,166
Howard University	401,719	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
College of Medicine	376,719	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	126,719	25,384	25,384	25,384	25,481	25,086
College of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000	------	------	------	------	------	------	------	------	------	------	------	------
FLORIDA																			
University of Florida, College of Medicine	321,705	104,995	25,000	25,000	25,000	25,000	4,995	125,000	25,000	25,000	25,000	25,000	25,000	91,710	25,567	25,567	25,576	------	15,000
University of Miami, School of Medicine	380,318	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	130,318	25,288	25,288	25,288	25,288	29,166
GEORGIA																			
Emory University	365,767	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
School of Medicine	340,767	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	90,767	25,383	25,192	192	15,000	25,000
Dental School	25,000	25,000	5,000	5,000	5,000	5,000	5,000	------	------	------	------	------	------	------	------	------	------	------	------
Medical College of Georgia	380,768	124,731	24,731	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	131,037	25,432	25,432	25,432	25,288	29,453
ILLINOIS																			
Chicago College of Osteopathy	329,466	125,000	25,000	25,000	25,000	25,000	25,000	124,950	25,000	25,000	25,000	25,000	24,950	79,516	15,576	15,576	15,576	15,288	17,500
Chicago Medical School	380,894	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	130,894	25,288	25,288	25,576	25,288	29,454
University of Chicago School of Medicine	255,593	------	------	------	------	------	------	125,000	25,000	25,000	25,000	25,000	25,000	130,593	25,383	25,288	25,372	25,288	29,262

Undergraduate training grants supported by the National Institutes of Health for fiscal years 1957–61—Continued

Institution	Total	National Cancer Institute						National Heart Institute						National Institute of Mental Health					
		Total	1961	1960	1959	1958	1957	Total	1961	1960	1959	1958	1957	Total	1961	1960	1959	1958	1957
ILLINOIS—continued																			
University of Illinois	398, 529																		
College of Medicine	373, 529	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	123, 529	25, 576	25, 576	25, 576	25, 252	21, 549
College of Dentistry	25, 000	25, 000	5, 000	5, 000	5, 000	5, 000	5, 000												
Loyola University	405, 382																		
Stritch School of Medicine	380, 382	124, 875	24, 975	24, 975	24, 975	24, 975	24, 975	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	130, 507	25, 287	25, 287	25, 383	25, 288	29, 262
School of Dentistry	25, 000	25, 000	5, 000	5, 000	5, 000	5, 000	5, 000												
Northwestern University	406, 283																		
Medical School	381, 283	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	131, 283	25, 576	25, 576	25, 576	25, 128	29, 427
Dental School	25, 000	25, 000	5, 000	5, 000	5, 000	5, 000	5, 000												
INDIANA																			
Indiana University Foundation Research Division	380, 981																		
Medical School	356, 006	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	100, 000	25, 000	25, 000	25, 000	25, 000		131, 006	25, 576	25, 576	25, 576	25, 288	28, 990
School of Dentistry	24, 975	24, 975	4, 995	4, 995	4, 995	4, 995	4, 995												
IOWA																			
College of Osteopathic Medicine and Surgery	327, 222	123, 712	25, 000	25, 000	25, 000	24, 647	24, 065	124, 138	25, 000	25, 000	25, 000	25, 000	24, 138	79, 372	15, 432	15, 432	15, 432	15, 288	17, 788
State University of Iowa	406, 374																		
College of Medicine	381, 374	125, 000	25, 000	25, 000	25, 000	25, 000	125, 00	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	131, 374	25, 576	25, 576	25, 576	25, 288	29, 358
College of Dentistry	25, 000	25, 000	5, 000	5, 000	5, 000	5, 000	5, 000												
KANSAS																			
University of Kansas, Medical Center	380, 465	124, 889	24, 989	24, 900	25, 000	25, 000	25, 000	124, 653	24, 997	24, 948	24, 894	24, 974	24, 840	130, 923	25, 576	25, 576	25, 375	25, 128	29, 268

KENTUCKY																			
University of Kentucky College of Medicine	100,184	25,000	25,000					49,948	24,948		25,000			25,236	25,236				
University of Louisville	403,123																		
School of Medicine	378,155	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	128,155	25,480	25,480	25,480	24,937	26,778
School of Dentistry	24,968	24,968	5,000	5,000	4,968	5,000	5,000												
LOUISIANA																			
Louisiana State University, School of Medicine	381,086	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	131,086	25,576	25,384	25,384	25,288	29,454
Loyola University, School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
Tulane University	456,182																		
School of Medicine	381,182	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	131,182	25,480	25,480	25,480	25,288	29,454
Department of Tropical Medicine and Public Health	75,000							75,000	15,000	15,000	15,000	15,000	15,000						
MARYLAND																			
Johns Hopkins University	495,865																		
School of Medicine	380,365	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	130,365	25,288	25,288	25,287	25,288	29,214
School of Public Health	115,500							115,500	15,000	15,000	27,000	27,000	31,500						
University of Maryland	409,852																		
School of Medicine	384,852	125,000	25,000	25,000	25,000	25,000	25,000	129,167	25,000	25,000	25,000	25,000	29,167	130,685	25,137	25,576	25,576	25,128	29,268
School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
MASSACHUSETTS																			
Boston University, School of Medicine	360,840	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	110,840	25,576	25,000	19,410	19,410	21,444
Harvard University	461,054																		
School of Medicine	358,554	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	108,554	25,576	25,576	25,576	288	31,538
School of Dental Medicine	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
School of Public Health	77,500							77,500	15,000	15,000	15,000	15,000	17,500						
Tufts University	392,932																		
School of Medicine	367,932	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	117,932	25,144	25,096	25,096	25,096	17,500
School of Dental Medicine	25,000	25,000	5,000	5,000	5,000	5,000	5,000												

Undergraduate training grants supported by the National Institutes of Health for fiscal years 1957–61—Continued

Institution	Total	National Cancer Institute						National Heart Institute						National Institute of Mental Health					
		Total	1961	1960	1959	1958	1957	Total	1961	1960	1959	1958	1957	Total	1961	1960	1959	1958	1957
MICHIGAN																			
University of Detroit, School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
University of Michigan	379,959																		
School of Medicine	279,959	123,299	24,991	24,944	24,721	24,505	24,138	73,570	25,000	15,000	10,800	10,800	11,970	83,090	16,964	16,964	16,374	15,288	17,500
School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
School of Public Health	75,000							75,000	15,000	15,000	15,000	15,000	15,000						
Wayne State College of Medicine	380,235	124,053	24,995	24,915	24,755	24,388	25,000	125,000	25,000	25,000	25,000	25,000	25,000	131,182	25,576	25,576	25,576	25,000	29,454
MINNESOTA																			
University of Minnesota	481,192																		
Medical School	381,192	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	131,192	25,576	25,576	25,576	25,288	29,176
School of Dentistry	25,000	25,000	5,000	5,000	4,600	5,400	5,000												
School of Public Health	75,000							75,000	15,000	15,000	15,000	15,000	15,000						
MISSISSIPPI																			
University of Mississippi School of Medicine	381,470	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	131,470	25,576	25,576	25,576	25,288	29,454
MISSOURI																			
Kansas City College of Osteopathy and Surgery	328,364	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	78,364	15,288	15,288	15,288	15,000	17,500
Kerksville College of Osteopathy and Surgery	327,740	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	77,740	15,000	15,000	15,240	15,000	17,500
University of Kansas City, School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
University of Missouri, School of Medicine	323,477	125,000	25,000	25,000	25,000	25,000	25,000	129,167	25,000	25,000	25,000	25,000	29,167	69,310	25,144			15,000	29,166
St. Louis University	405,107																		
School of Medicine	380,142	124,840	25,000	25,000	25,000	24,840	25,000	125,000	25,000	25,000	25,000	25,000	25,000	130,302	25,576	25,576	25,318	24,974	28,858
School of Dentistry	24,965	24,965	5,000	4,999	4,999	4,999	4,968												

Washington University	406,288																		
School of Medicine	381,288	124,986	25,000	25,000	24,986	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	131,302	25,576	25,576	25,576	25,145	29,429
School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
NEBRASKA																			
Creighton University	405,030																		
School of Medicine	380,030	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	130,030	25,288	25,000	25,000	25,288	29,454
School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
University of Nebraska	409,436																		
College of Medicine	384,436	124,794	25,000	25,000	24,954	25,000	24,840	129,167	25,000	25,000	25,000	25,000	29,167	130,475	25,288	25,288	25,288	25,158	29,453
College of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
NEW HAMPSHIRE																			
Dartmouth Medical School	165,716	25,000	5,000	5,000	5,000	5,000	5,000	60,558	14,796	11,800	11,800	11,081	11,081	80,158	15,822	15,822	15,822	14,166	18,526
NEW JERSEY																			
Fairleigh Dickinson University, School of Dentistry	20,000	20,000	5,000	5,000	5,000	5,000													
Seton Hall	235,213																		
College of Medicine	210,720	85,000	25,000	25,000	25,000	5,000	5,000	75,000	25,000	25,000		25,000		50,720	25,576	25,144			
College of Dentistry	24,493	24,493	5,000	5,000	4,973	4,552	4,968												
NEW YORK																			
Columbia University	472,800																		
College of Physicians and Surgeons	371,194	124,980	25,000	24,995	24,995	24,995	24,995	114,766	24,948	29,969	19,980	19,980	19,899	131,448	25,576	25,554	25,576	25,288	29,454
Dental and Oral Surgery	24,991	24,991	5,000	4,999	4,999	4,999	4,994												
School of Public Health	76,615							76,615	14,990	14,990	14,887	14,887	16,861						29,454
Cornell University Medical College	356,997	124,979	24,992	24,994	24,998	24,998	24,997	125,000	25,000	25,000	25,000	25,000	25,000	107,018	25,264	25,192	25,128	288	29,454
New York Medical College	379,147	125,000	25,000	25,000	25,000	25,000	25,000	123,120	24,624	24,624	24,624	24,624	24,624	131,027	25,576	25,576	25,524	25,236	31,146
New York University	406,235																		
School of Medicine	381,235	124,765	25,000	25,000	25,000	24,795	24,970	125,000	25,000	25,000	25,000	25,000	25,000	131,470	25,576	25,576	25,576	25,288	29,115
College of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
State University of New York	757,532																		
Downstate Medical Center	379,138	124,939	24,991	25,000	24,959	24,997	24,992	122,729	24,999	24,999	25,000	24,943	22,788	131,470	25,576	25,576	25,576	25,288	29,454
Upstate Medical Center	378,394	125,000	25,000	25,000	25,000	25,000	25,000	123,568	25,000	25,000	24,000	24,769	24,799	129,826	24,802	24,802	25,480	25,288	

Undergraduate training grants supported by the National Institutes of Health for fiscal years 1957–61—Continued

Institution	Total	National Cancer Institute						National Heart Institute						National Institute of Mental Health					
		Total	1961	1960	1959	1958	1957	Total	1961	1960	1959	1958	1957	Total	1961	1960	1959	1958	1957
NEW YORK—continued																			
Union College and University, Albany Medical School	380, 262	124, 944	24, 996	24, 996	24, 960	24, 996	24, 996	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	130, 318	25, 384	25, 384	25, 384	25, 000	29, 166
University of Buffalo	362, 315																		
School of Medicine	337, 315	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	87, 315	25, 240	15, 495	15, 010	15, 010	16, 560
School of Dentistry	25, 000	25, 000	5, 000	5, 000	5, 000	5, 000	5, 000												
University of Rochester School of Medicine and Dentistry	381, 462	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	124, 992	25, 000	25, 000	25, 000	25, 000	24, 992	131, 470	25, 576	25, 576	25, 576	25, 288	29, 454
Yeshiva University, Albert Einstein College of Medicine	381, 399	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	124, 929	24, 998	25, 000	24, 977	25, 000	24, 954	131, 470	25, 576	25, 576	25, 576	25, 288	29, 454
NORTH CAROLINA																			
Duke University Medical Center	380, 809	124, 531	24, 939	24, 939	24, 824	24, 970	24, 859	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	131, 278	25, 576	25, 480	25, 480	25, 288	29, 454
University of North Carolina	475, 083																		
School of Medicine	367, 583	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	124, 969	25, 000	25, 000	24, 989	24, 996	24, 984	117, 614	25, 576	25, 576	23, 412	20, 794	22, 256
School of Dentistry	25, 000	25, 000	5, 000	5, 000	5, 000	5, 000	5, 000												
School of Public Health	82, 500							82, 500	16, 500	16, 500	16, 500	16, 500	16, 500						
Wake Forest College, Bowman Gray School of Medicine	321, 492	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	71, 492	11, 972	11, 432	15, 012	15, 288	17, 788
NORTH DAKOTA																			
University of North Dakota, School of Medicine	99, 871	25, 000	5, 000	5, 000	5, 000	5, 000	5, 000	74, 871	14, 985	14, 985	14, 958	14, 985	14, 958						
OHIO																			
University of Cincinnati, College of Medicine	380, 646	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	130, 646	25, 576	25, 432	25, 384	25, 192	29, 062
Ohio State University	397, 391																		
College of Medicine	372, 391	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	125, 000	25, 000	25, 000	25, 000	25, 000	25, 000	122, 391	24, 955	24, 800	25, 480	24, 341	22, 815
College of Dentistry	25, 000	25, 000	5, 000	5, 000	5, 000	5, 000	5, 000												

Western Reserve University	404,127																		
School of Medicine	379,191	125,000	25,000	25,000	25,000	25,000	25,000	123,681	24,975	24,810	24,948	24,000	24,948	130,510	25,288	25,288	25,480	25,288	29,166
School of Dentistry	24,936	24,936	5,000	5,000	5,000	4,968	4,968												
OKLAHOMA																			
University of Oklahoma, School of Medicine	379,750	125,000	25,000	25,000	25,000	25,000	25,000	123,568	25,000	25,000	24,000	24,769	24,799	131,182	25,288	25,576	25,576	25,288	29,454
OREGON																			
University of Oregon	387,973																		
Medical School	362,973	125,000	25,000	25,000	25,000	25,000	25,000	122,758	25,000	25,000	24,758	24,000	24,000	115,215	25,575	25,576	25,576	15,288	23,200
Dental School	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
PENNSYLVANIA																			
Hahnemann Medical College	379,838	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	129,838	25,192	25,192	25,192	25,096	29,166
Jefferson Medical College	381,467	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	131,467	25,576	25,576	25,576	25,285	29,454
Philadelphia College of Osteopathy	276,960	121,960	25,000	25,000	25,000	23,280	23,680	125,000	25,000	25,000	25,000	25,000	25,000	30,000		15,000			15,000
Temple University	405,972																		
School of Medicine	380,972	125,000	25,000	25,000	25,000	25,000	25,000	124,740	24,948	24,948	24,948	24,948	24,948	131,232	25,576	25,576	25,576	25,236	29,268
School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
University of Pennsylvania	403,765																		
School of Medicine	378,765	124,945	25,000	25,000	25,000	24,962	24,983	125,000	25,000	25,000	25,000	25,000	25,000	128,820	25,576	25,576	25,576	25,288	26,804
School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
University of Pittsburgh	477,082																		
School of Medicine	374,582	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	124,582	25,288	25,288	25,192	25,000	23,814
School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
School of Public Health	77,500							77,500	15,000	15,000	15,000	15,000	17,500						
Woman's Medical College	381,470	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	131,470	25,576	25,576	25,576	25,288	29,454
SOUTH CAROLINA																			
Medical College of South Carolina	310,203	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	60,203	12,438	12,133	12,134	11,804	11,694
SOUTH DAKOTA																			
State University of South Dakota, School of Medicine	124,494	25,000	5,000	5,000	5,000	5,000	5,000	75,000	15,000	15,000	15,000	15,000	15,000	24,494	5,533	5,576	4,502	4,374	4,509

Undergraduate training grants supported by the National Institutes of Health for fiscal years 1957–61—Continued

Institution	Total	National Cancer Institute						National Heart Institute						National Institute of Mental Health					
		Total	1961	1960	1959	1958	1957	Total	1961	1960	1959	1958	1957	Total	1961	1960	1959	1958	1957
TENNESSEE																			
Meharry Medical College	395,054																		
Medical College	370,054	125,000	25,000	25,000	25,000	25,000	25,000	129,167	25,000	25,000	25,000	25,000	29,167	115,887	25,000	25,000	25,000	25,000	15,887
School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
University of Tennessee	344,781																		
College of Medicine	319,781	125,000	25,000	25,000	25,000	25,000	25,000	124,984	25,000	25,000	25,000	24,985	24,999	69,797	13,807	13,711	13,556	13,412	15,311
College of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
Vanderbilt University, School of Medicine	379,502	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	129,502	25,192	25,144	25,000	25,000	29,166
TEXAS																			
Baylor University	377,970																		
College of Medicine	352,970	125,000	25,000	25,000	25,000	25,000	25,000	124,200	24,840	24,840	24,840	24,840	24,840	103,770	25,221	25,223	25,480	25,288	2,558
College of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
University of Texas	731,345																		
Southwestern Medical School	380,678	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	130,678	25,576	25,432	25,432	25,240	28,998
School of Medicine	325,667	125,000	25,000	25,000	25,000	25,000	25,000	124,956	25,000	25,000	25,000	25,000	24,956	75,711	25,560	25,576	24,143	288	144
School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
UTAH																			
University of Utah, College of Medicine	379,649	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	129,649	25,576	25,555	25,555	25,288	27,675
VERMONT																			
University of Vermont, College of Medicine	383,813	125,000	25,000	25,000	25,000	25,000	25,000	129,167	25,000	25,000	25,000	25,000	29,167	129,646	25,096	25,096	25,096	25,096	29,262

VIRGINIA																			
Medical College of Virginia	369,322																		
School of Medicine	344,322	124,948	25,000	25,000	25,000	24,998	24,950	125,000	25,000	25,000	25,000	25,000	25,000	94,374	25,192	25,192	25,192	48	18,750
School of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
University of Virginia, College of Medicine	380,379	125,000	25,000	25,000	25,000	25,000	25,000	124,629	24,948	24,948	24,948	24,837	24,948	130,750	25,384	25,384	25,336	25,288	29,358
WASHINGTON																			
University of Washington	394,804																		
College of Medicine	369,804	125,000	25,000	25,000	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	119,804	25,576	25,576	25,576	25,288	17,788
College of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
WEST VIRGINIA																			
West Virginia University	234,952																		
College of Medicine	219,952	125,000	25,000	25,000	25,000	25,000	25,000	84,984	25,000	14,996	14,996	14,996	14,996	9,968				4,979	4,989
College of Dentistry	15,000	15,000	5,000	5,000	5,000														
WISCONSIN																			
Marquette University	362,126																		
College of Medicine	337,126	124,786	25,000	24,786	25,000	25,000	25,000	125,000	25,000	25,000	25,000	25,000	25,000	87,340	24,840	15,000	15,000	15,000	17,500
College of Dentistry	25,000	25,000	5,000	5,000	5,000	5,000	5,000												
University of Wisconsin, College of Medicine	376,909	125,000	25,000	25,000	25,000	25,000	25,000	122,000	25,000	25,000	25,000	25,000	22,000	129,909	24,840	24,888	25,480	25,288	29,413
PUERTO RICO																			
University of Puerto Rico	480,384																		
School of Medicine	385,384	125,000	25,000	25,000	25,000	25,000	25,000	129,167	25,000	25,000	25,000	25,000	29,167	131,217	25,576	25,576	25,576	25,288	29,201
School of Dentistry	20,000	20,000	5,000	5,000	5,000	5,000													
School of Public Health	75,000							75,000	15,000	15,000	15,000	15,000	15,000						

The CHAIRMAN. Medical schools obviously need teaching hospitals. You are quite familiar with the Hill-Burton program since it is administered under your direction. We would like to have information as to what extent that program has been helpful in the construction and expansion of teaching hospitals.

I do not like to bring into this hearing, even by reference, any experience of my own State of Arkansas. I do know, however, that in the case of the Arkansas Medical School this new construction and expansion has been rather extensive. In my judgment the results have been among the best in the last very few years that we have had in the United States. That has been accomplished, I believe, in part by the Hill-Burton program, but largely through certain special taxes which have been levied within our own State.

What we would like to know is if there is any overlap between this proposed new program and the Hill-Burton program insofar as teaching hospitals are concerned and, as I indicated to you in a letter, and as was mentioned yesterday, we have the health research facilities program. We amended that program last year, as you stated yesterday in your statement, and modified somewhat the definition of a "multipurpose facility." Can you tell us what the effect of that change will be, and to what extent medical school teaching facilities may be constructed under that program? We would also like to know to what extent that has been done in the last 5 years.

Secretary RIBICOFF. Mr. Chairman, we will be very pleased to supply all the information and the answers to the questions in very short order. We will have it for the committee.

The CHAIRMAN. In doing so, I know you will make it as brief as you can. Would you then give us copies of it so each member of the committee could have a copy? We can't wait until the record is printed for this purpose and the committee should have that information.

Secretary RIBICOFF. All right.

(The information referred to above follows:)

HEALTH RESEARCH FACILITIES CONSTRUCTION

The effect of the change in the definition of the kind of facilities eligible for matching grants under the health research facilities program is to remove the previous rigid distinction between that portion of a facility which was for health research purposes, and, therefore, supportable under this program, and the other portions of the facility which may have been used for other purposes which were not supportable under the prior concept, whether the other purposes were research related or not. Thus, those laboratories and space to be utilized for graduate level research training in a research building are now eligible for inclusion in a health research facility grant along with the regular health research laboratory space of the building, whereas under the prior limited definition space used exclusively for research training purposes would not have been supportable. Medical school teaching facilities—that is classrooms and laboratory space for undergraduate medical students—are not eligible for support under the health research facilities program even under the broadened definition referred to above. Since such undergraduate medical school teaching facilities have never been supportable under this program; no funds have been utilized for that purpose in the last 5 years.

TEACHING HOSPITAL CONSTRUCTION UNDER THE HILL-BURTON PROGRAM

During the last 5 fiscal years, 60 teaching hospital projects owned and operated by universities or medical schools have been approved under the Hill-Burton program. These projects cost a total of over $71 million and were allotted Federal Hill-Burton funds of nearly $16 million. Generally, those States with only one medical school allot some Hill-Burton funds for construction of teaching hospitals. It is not always possible to use Hill-Burton funds for this purpose, however, in those States which have several medical schools since the demands on relatively small allotment of Hill-Burton funds would be excessive.

There is no possible overlap between the Hill-Burton program and the program which would be authorized by the bill under consideration. Section 721(c)(6) specifically provides that under the proposed legislation the Surgeon General may approve aid for constructing a hospital or diagnostic or treatment center as defined in the Hill-Burton legislation only if an application has been filed for assistance under the Hill-Burton program and aid has been denied because the project has no sufficient priority or funds are not available for the project from the State allotment of Hill-Burton funds.

Secretary RIBICOFF. Mr. Chairman, a few questions were asked yesterday and we were able to get information overnight that might be of interest to you and the committee. You may recall we mentioned the DeWitt report. This is the DeWitt report which was prepared for the National Science Foundation by the Office of Scientific Personnel of the National Academy of Sciences and the National Research Council.

There is a very interesting figure that might interest the committee on page 453 of that report which indicates that between 1928 and 1959 the Soviet Union graduated and trained 420,000 doctors. During the period of 1926–58, the United States graduated and trained 181,700 doctors.

The CHAIRMAN. This is what year?

Secretary RIBICOFF. This is 1926 to 1958 against the Soviet's 1928 to 1959; in other words, 32 years for the United States and 31 years for the Soviet Union. They just overlap a little bit: 420,000 for the Soviet Union and 181,000 for the United States. In other words, the Soviet Union trained 2.3 times as many as the United States.

Another question was asked about these foreign doctors, their place of origin, and from what countries they came. The specific question asked was about England. Our figures show that in 1960, out of some 2,000 foreign-trained physicians licensed by State board examinations, including some Americans—it is not just foreign doctors, but Americans trained abroad—the figure from England is 95. Some of the other countries with large figures, much larger than England, include Germany, with 199; Italy, 264; Spain, 101; Switzerland, 196; and Mexico, 94.

We will be pleased to give you a complete breakdown of the place of training of the foreign-trained physicians licensed in 1960, country by country, to be inserted at this place in the record.

(The complete breakdown referred to above follows:)

PLACE OF TRAINING OF FOREIGN-TRAINED PHYSICIANS

No data are available to show the country of origin of the 1,000 graduates of foreign medical schools who are newly licensed in the United States each year. In 1960, some 2,000 foreign-trained physicians (including some Americans) were licensed by State boards on the basis of passing examinations.

This figure includes some duplications. The 2,000 physicians were graduated from medical schools in the following countries:

Europe:	
Austria	44
Belgium	33
Bulgaria	3
Czechoslavakia	13
Denmark	5
England	95
Ireland	66
Scotland	30
Wales	2
Estonia	3
France	27
Germany	199
Greece	65
Hungary	95
Italy	264
Latvia	10
Lithuania	6
Netherlands	67
Norway	3
Poland	22
Portugal	2
Rumania	12
Spain	101
Sweden	2
Switzerland	196
U.S.S.R.	9
Yugoslavia	17
Australia	8
New Zealand	5
Philippines	73
Central and South America:	
Argentina	28
Bolivia	4
Brazil	7
Chile	5
Colombia	8
Ecuador	5
Guatemala	2
Honduras	2
Mexico	94
Nicaragua	1
Paraguay	4
Peru	16
Asia:	
China	32
Formosa	2
Hong Kong	1
India	18
Iran	32
Iraq	6
Israel	6
Japan	14
Korea	28
Lebanon	36
Pakistan	1
Turkey	28
Africa:	
Egypt	29
South Africa	8
West Indies:	
Cuba	77
Dominician Republic	31
Haiti	10

Source: Council on Medical Education and Hospitals of the American Medical Association. Medical Licensure Statistics for 1960. Journal of the American Medical Association, 176, pp. 693–738, May 27, 1961.

The CHAIRMAN. Thank you, Mr. Secretary. Mr. Jarman?

Mr. JARMAN. Mr. Chairman, I have no questions at this time. I would like to join in welcoming the Secretary and complimenting him on his very able presentation. I would also like to add, Mr. Chairman, that Dr. Mark R. Everett, director and dean of the University of Oklahoma Medical Center, in Oklahoma City, is here with us and will testify to the committee later, specifically on the needs of our own State and on how H.R. 4999 will aid materially in meeting those needs. Thank you.

The CHAIRMAN. Mr. Nelsen?

Mr. NELSEN. Thank you, Mr. Chairman. Mr. Secretary, I would like to reemphasize the point that was brought up by Mr. Roberts regarding doctors in rural areas. I have in mind Lake Crystal, Minn., and Kasota, Minn., where the local citizens built a clinic and a young doctor came in only to leave in a short time and the building stands empty. A beautiful facility, but no one seems to want to come out to a small rural community, and it seems to me that there might be some merit to the provision that is in the National Defense Education Act where loans are made and a certain forgiveness is applied to the loan if a student teaches school, so I made it my business to check a bit on the performance of the National Defense Education Act and it is my

understanding that the performance has been very good, and I quite agree that in this particular bill that we are discussing a loan feature has merit.

It seems to me that any good citizen would like to have a chance to pay it back if he can, but I do think there should be some liberal provisions in the bill where forgiveness can be applied in case of hardship, but certainly we like to see a student who has a loan willing to pay it back if he can, and having in mind thhe long-range picture.

Now, in the Defense Education Act repayment has been $1,951,260 already and this act was passed in 1958. It did not go into effect really until 1959 and in that short time there has been a repayment of $1,951,260 and the record shows 12,785 borrowers, so these notes say—I presume that is schools—with 238,928, or a quarter of a million youngsters involved.

If this program were to go into effect with a loan feature in it and if the repayment record could be as good as under the National Defense Education Act, looking out ahead we would have money coming into the fund to repeat on what we are trying to do under this bill, and I believe we should give serious thought to a loan feature in this bill if it becomes law. That is my comment, Mr. Chairman.

The CHAIRMAN. Mr. O'Brien.

Mr. O'BRIEN. Mr. Secretary, I listened very carefully to your testimony yesterday. I want to commend you for it. I am very strongly in favor of the purposes of this bill and I assure you that your testimony did not weaken my feeling in that respect. I would like to ask one question just so we can have it emphasized at the proper point in the record. You gave those figures this morning that were requested yesterday on the number of doctors graduated from the Soviet Union compared to the United States. As I recall, you said yesterday that we shouldn't be too deceived by numbers because the training was not as good as our doctors receive. Is that correct?

Secretary RIBICOFF. That is correct.

Mr. O'BRIEN. They in effect turn out people who would be doctors by courtesy only in this country, I assume.

Secretary RIBICOFF. I would say there is no question that very few of them could qualify under American standards, which are very strict, and with the number of years of professional training required. I would say the American system of training doctors is without question of the highest standard, with the most stringent requirements of any nation in the world.

I cite these figures to indicate that they have a different system. They are training a number of doctors which gives them a surplus, and many of these physicians certainly do good work in many places in the world that don't have the same standards that we have in the United States.

Mr. O'BRIEN. Yes. In other words, we are not doing such a bad job. It is just that we have such high requirements. Has there been any thought at all, Mr. Secretary, or have you heard anyone in the medical profession discuss the possibility of establishing in this country what might be sort of a second-grade type of doctor?

Secretary RIBICOFF. Well, there has been some talk, but I would be against it and I guess most Americans would be against it. We don't figure there should ever be a second-grade doctor taking care

of an American person. I think we are entitled to the highest qualities and I am sure all of us are very proud of the type of training that we have for the physicians of this country. What we are seeking in this act is to make sure it continues this way. That is why I gave you some figures indicating the drop in the A students in recent years. We would like to make sure that the quality of the men who go into the medical profession continues on the highest possible level in our Nation.

Mr. O'BRIEN. I agree with you, Mr. Secretary, but I wanted to say we not only want more doctors; we want more good doctors.

Secretary RIBICOFF. Yes, sir.

Mr. FRIEDEL. Would the gentleman yield?

Mr. O'BRIEN. Yes.

Mr. FRIEDEL. I am sorry that I have to leave. I have to go to another committee, but in our audience we have Rabbi Morris Lieberman, chairman of the Subcommittee on Medical Education and Research, Committee on Medical Care, Maryland State Planning Commission. He worked on this program and he will testify later. I just wanted to pay my respects to Rabbi Lieberman. Thank you.

Mr. O'BRIEN. I am glad to yield to the gentleman and I might say that I also have a distinguished witness in the audience from my hometown, but I am going to wait until he testifies. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Curtis.

Mr. CURTIN. Thank you, Mr. Chairman. Mr. Secretary, I too listened with much interest to your statement yesterday. I believe you touched lightly on the question of optometry.

Secretary RIBICOFF. Yes, sir.

Mr. CURTIN. What is your opinion as to the adequacy of the facilities and the persons trained in this field?

Secretary RIBICOFF. I would say that the optometrists are being well trained and they are competent, but it is our understanding that the need isn't as great in the field of optometry as it is in the field of physicians and dentists, and, of course, you have to start somewhere. A number of careful studies and surveys have been made in the fields covered by this bill. Such studies have not been made in the fields of optometry and veterinary medicine, and many other very worthwhile branches of the health professions. An advisory committee to the Surgeon General is now making a study of nursing. I would hope that while studies were being made in these important fields we would not delay placing on our statute books legislation that is so needed in the field that we are discussing today, Congressman Curtin.

Mr. CURTIN. Then you did consider the possibility of the need of optometry when you were making your studies on this program?

Secretary RIBICOFF. The studies in medicine and dentistry have been going on for sometime. To my knowledge there hasn't been a national study of the same scope in the field of optometry.

Dr. TERRY. That is correct.

Secretary RIBICOFF. But these studies were started during the Eisenhower administration with the appointment of the Bane Committee, which was composed of many distinguished members. It is a problem that has been brought to the attention of many of us for many, many years.

Now, of course, as I indicated yesterday, within a few months we will have completed a study in nursing, and I guess there is a limit of how many studies can be going on at the same time, Congressman Curtin.

Mr. CURTIN. Do I understand then that you don't feel there is any need to include optometry in this particular legislation?

Secretary RIBICOFF. I don't think so.

Mr. CURTIN. That is all. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Moss.

Mr. Moss. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Sibal.

Mr. SIBAL. Thank you, Mr. Chairman.

Mr. Secretary, it is always a particular pleasure for me to have you appear before our committee so we can renew our old association and acquaintance. I am interested in the identical approach the proposed legislation takes to the basic medical school, the osteopath study, and the dental study. Is it your opinion that the need in all these areas is identical?

Secretary RIBICOFF. I would say that the need is equally great in all of them. They are all considered to be part and parcel of the basic health professions. We would be proceeding in proportion, basically, to the number of schools of each and where the problems are. The shortage of dentists is even greater relatively than the shortage of physicians—twice as great, as a matter of fact. This is a great problem in the dental field, and of course today the osteopath, who is licensed to practice medicine has a role to play too, but the number of osteopathic physicians is proportionately much smaller than that of doctors of medicine and dentistry.

Mr. SIBAL. The statistics which you gave are most helpful in terms of the apparent reduction in quality of applicants for medical school. Would these statistics apply to osteopathy and dental schools too?

Secretary RIBICOFF. We don't have data on the grades in dentistry and we don't have the grades in osteopathy comparable to what we gave yesterday, relating to the number of A students applying to medical schools, so all it would be would be an educated guess. However, there are representatives that will be testifying from dental schools and the dental profession and I think it would be pertinent, Congressman Sibal, to ask that question of them from their own personal experience.

Mr. SIBAL. Mr. Williams touched on a problem which from one point of view or another most Americans are concerned with these days and that is the question of the administration of these programs in areas where possible promulgations of policies of admission which some might consider discriminatory might exist.

Do you have any feeling as to whether or not this legislation is a proper vehicle for considering this problem in terms of Federal participation?

Secretary RIBICOFF. Well, I would hope that this legislation would not be the vehicle for such consideration. We have a basic problem here. It is my feeling that in this legislation we should not attempt to set the standards or admission policies in all of the medical schools, private and public, throughout our Nation. What you have here is a proposal that each school should determine who gets the scholar-

ships. I am sure that throughout the United States there are sufficient medical and dental schools so that a qualified person would find scholarship aid or a facility, no matter what his race, color, or creed may be, and it is our hope that this legislation would pass.

We believe it is vital and necessary and we have tried not to involve this legislation with many of the problems that I believe the Congress should address themselves to directly.

Mr. SIBAL. But wouldn't this be one way of addressing ourselves directly to this problem?

Secretary RIBICOFF. You could address yourself to this problem, Mr. Sibal, but I think you would fail in passage of this legislation. This problem we will have to face up to as a Nation and face up to directly. It is my hope that we could eliminate this problem of discrimination as rapidly as possible throughout our country. I believe that great strides are being made throughout our Nation. I believe great strides will continue to be made, but the surest way to doom this legislation, which would be a great tragedy, would be to try to force upon such an important measure another important issue. I don't downgrade the issue at all, sir, but I think it would be most unfortunate for every person in this country, no matter what his race, color, or creed may be, to have this Nation without the sufficient supply of medical and dental personnel to care for all people.

Mr. SIBAL. Well, I am in complete agreement with that, but it is difficult for me to understand why this legislation would be doomed. As I recall, both major political parties clearly have endorsed the principle of nondiscrimination in terms of their national platform and in the utterances of the national leaders, and it would seem to me that if we did not require a medical school before it participated in the very obvious benefits which would accrue to it from Federal moneys to in fact admit outstanding students, which is the purpose of this, to increase the number and quality of our physicians, and which school did not simply because of their race or creed or color, somehow or other we are in effect compounding the felony, to use a legal term.

It seems to me that we can provide legal and moral leadership on the Federal level if we simply say we don't necessarily require that you participate, but say that if you want to participate in this program you cannot turn boys or girls down except for good and sufficient academic reasons.

Secretary RIBICOFF. Well, let me say this. I would hope that every college and university and every school in this Nation would eliminate discrimination, that we would have no segregated schools anywhere in this Nation. This is a problem that without question bedevils our society. Yet until these policies are adopted locally, statewide, and nationally, I am still interested in the health of people in communities and States that may or may not agree with whatever philosophy I may have in these fields.

These States and these communities should have healthy people. I think that a healthy community and a healthy people is a great asset to our Nation, and I think there certainly will come a day when segregation and discrimination will end in all part of the United States, but I would hope that we would look at this bill on its own merits, and I would hope that the Congress of the United States would be willing to face up to the civil rights issue on its merits and not try

to use other good legislation as a vehicle to force this issue. These are important issues and this is an important bill.

Mr. YOUNGER. Mr. Chairman, would the gentleman yield?

Mr. SIBAL. Yes, be happy to yield.

Mr. YOUNGER. Mr. Secretary, I don't think you have answered the question. You made a statement that an injection of this principle into the bill would defeat it. Now, why?

Secretary RIBICOFF. Well, because I think I am aware of the political facts of life, Congressman Younger. I read the newspapers and know what the temper and tenor of Congress is on this issue, I would hope.

Mr. YOUNGER. Just a minute. Are you accusing Congress of being opposed to the principle of desegregation, et cetera?

Secretary RIBICOFF. I follow the newspapers and the Congressional Record, sir.

Mr. YOUNGER. Well, again you don't answer the question.

Mr. WILLIAMS. You mean privately or publicly?

Mr. YOUNGER. That is what I am trying to get at. I would like to find out. You made a statement about Congress, as to our attitude. I want to know why you think Congress would defeat this bill if the race, creed or nationality was injected in it. I don't believe it. I am a Member of Congress. You have made the statement about Congress. Now, why?

Secretary RIBICOFF. Congressman Younger, may I ask you what measure that Congress has had before it has passed that contained this type of a provision? Will you give me an example of a measure that has had success on the floor of this Congress?

Mr. YOUNGER. Yes; on educational bills we have put it in every time the education bill has been up.

Secretary RIBICOFF. Does it pass with that condition?

Mr. YOUNGER. It passed the House, yes.

Secretary RIBICOFF. Has it passed both bodies? It takes action by both bodies before it becomes a law.

Mr. YOUNGER. I don't think it was on account of that. There were other principles which were involved. I think that we have as good a record probably as the administration on this point.

The CHAIRMAN. Let the Chair say that he hopes the hearings will not get bogged down in the expression of opinions between this witness and the members. After all, Members of Congress decide what they are going to do on any question and I think the Secretary has a right to express his opinion on this or any other question just as each member.

Mr. YOUNGER. I yield the floor.

Mr. SIBAL. Thank you. I am concerned about some action in this whole area, not just expressions of philosophy which you have expressed and which I am in complete accord with, and I recognize the problem, but I wonder, and I would like your expression on this, if somewhere along the line we cannot expect some leadership from the administration in this area and if this wouldn't be the kind of place where this leadership can be exercised.

Secretary RIBICOFF. I would say, Congressman Sibal, that this administration doesn't have to apologize for its leadership in this field of action. I think the conduct of the President in his Executive

orders on the employment practices, the appointment of Negroes to high public office and responsibility, and the bringing in at lower echelons of qualified Negroes, is a record that has never been equaled before in the history of this country, or by the prior administration. I am proud to be a member of an administration that has done so much.

Mr. SIBAL. How about the Negro medical student?

Secretary RIBICOFF. I would say that a qualified Negro medical student will find a place among the medical schools of this country. While he might not be admitted in some of the Southern States, I believe that there are many States in this country that are only too glad, and many medical schools that are only too glad, to take a qualified Negro medical student. I believe that no qualified Negro medical student fails of admission to a medical school somewhere in the United States. These scholarships, of course, would be available throughout the country. I mean, if he were qualified and in need, whether he went to Harvard, or Michigan, or Ohio State, the scholarship would be just as available to him as if he went to Mississippi or Arkansas.

Mr. SIBAL. And conversely, it would be just as available in Mississippi and Arkansas to somebody who, you might say, earned admission over this boy strictly on the basis of his race?

Secretary RIBICOFF. I would say that under this bill each school is going to have to administer its own affairs. Each school will have its own admission policy. Do I understand that you would like the Federal Government to write into its legislation the control of the local admission of students? This is one of the problems that complicates all educational programs, the so-called Federal control issue.

We have tired to preserve in all educational measures that have come before this committee or any committee of this House in any field, complete local autonomy. We have drawn our legislation in such a way that the Federal Government could not interfere in the practices and administration of programs that go through Congress. To start writing in the qualification that you would ask us to do would mean we would be in the position of controlling the entire administrative practices of every medical school and dental school in the country. I don't think that Congress wants us to do that.

Mr. SIBAL. I would disagree with that, but that is another question. What I am trying to do really is not to in any way dictate the internal policy, as I indicated earlier, but if Federal participation is involved and we have the law of the land insofar as the Federal Government is concerned clearly defined by the Supreme Court, then I think that is quite a different question.

If the Federal Government participates with its money, it seems to me we should have every right to expect that the Federal law would be followed. I have no further questions, Mr. Chairman.

The CHAIRMAN. Mr. Rogers?

Mr. ROGERS of Florida. No questions, Mr. Chairman.

The CHAIRMAN. Governor Thomson?

Mr. THOMSON. Governor, did you say yesterday that you would have no objection to writing into this bill a requirement that these scholarships be repaid on some terms or in some proportion?

Secretary RIBICOFF. I said this: If there was an inclination on the part of the committee to substitute this provision for our grant

scholarship proposal I would hope that our staff would have the opportunity to consult with your staff in the drafting of these proposals to make sure that the ends that we sought to accomplish were actually being accomplished. I think there are many formulas that could be adopted and it has to be very carefully drafted.

I personally am for outright scholarships, and not a loan program. I was just offering our staff services in the event this committee during its deliberations thought that it preferred the loans, because I think they have to be carefully drafted not to be self-defeating.

Mr. THOMSON. Congressman Roberts talked about the inadequacy of medical and dental people in rural areas, and I think there are large areas where it is easily identified as an area in need of that type of service. Would you have any objections to requiring that at least part of these grants be in the nature of scholarships which would be repaid if the recipient did not serve a certain length of time in the public health field, or in the military field, or in the field of evident need for that particular type of service?

Secretary RIBICOFF. You mean the forgiveness feature?

Mr. THOMSON. The forgiveness feature if they served in those fields.

Secretary RIBICOFF. I would say if this committee decided to go to the loans I would strongly advocate that such a provision be written in to encourage men and women in these fields to go into the lower-paid areas where the need is great.

Mr. THOMSON. Is the purpose of the outright grant merely to attract these qualified people to this field that is so badly needed?

Secretary RIBICOFF. This is one of the purposes, to attract these people, qualified people, to the field of medicine and dentistry. I think, too, it would encourage people to go into the lower paid parts of the medical and dental professions if they did not have a debt hanging over their head. I recognize that if there was a forgiveness over a period of years this might also help to induce people to go into those fields. I do recognize the validity of that particular point, Governor Thomson.

Mr. WILLIAMS. Will the gentleman yield at that point?

Mr. THOMSON. Yes.

Mr. WILLIAMS. We have such a program in Mississippi, a State program of scholarship loans to medical students. As I understand it, those loans are made and the student promises to practice medicine after graduation in a community of some 5,000 people or less for a period of 5 years. If he fails to carry out that promise, then he is obligated to repay that scholarship loan with interest. If he carries out that promise, at the end of the 5 years it is forgiven, and we have found that that program has been very successful in providing an incentive for doctors to go to rural areas.

We don't suffer the same acute shortage of doctors in the rural areas that so many other sections of the country do.

Mr. COLLIER. Will the gentleman yield for one question at that point?

Mr. THOMSON. Yes.

Mr. COLLIER. Mr. Secretary, has there been a categorical breakdown or is one available, that would show how many doctors presently are general practitioners, and how many in fact are specialists in some field? If that could be submitted for the record that would be satisfactory.

Secretary RIBICOFF. We could. We would be glad to submit those figures to you.

The CHAIRMAN. You may submit it for the record.

(The information referred to above follows:)

Type of practice of physicians, 1959 (48 States and District of Columbia)

Type of practice	Number of physicians	Percent of physicians
All physicians	236,089	100
Active non-Federal physicians	208,253	88
Private practice	160,592	68
General practice and part-time specialty	81,957	35
Full-time specialty	78,635	33
Hospital service	39,730	17
Training programs	24,818	11
Other full-time staff	14,912	6
Teaching, administration (full-time)	7,931	3
Medical school staff	2,780	1
Medical administration	682	(1)
Research	601	(1)
Public health, industry, insurance	3,868	2
Federal Government ervice	17,519	7
Not in medical practice	10,317	4
Retired	7,177	3
Other than medical practice	3,140	1

[1] Less than 0.5 percent.

Source: Health Manpower Source Book 10. Public Health Service Publication 263, sec. 10.

Type of practice of osteopathic physicians, 1961 (50 States and District of Columbia)

Type of practice	Number of physicians	Percent of physicians
All physicians	14,350	100
Private practice	11,034	77
General practice	6,557	46
Part-time specialty	2,080	14
Full-time specialty	1,150	8
Full-time manipulative therapy	1,247	9
Hospital service	1,012	7
Internship	431	3
Residency	298	2
Assistantship or fellowship	55	(1)
Other full-time staff	228	2
Other practice	130	1
Full-time college faculty	98	1
Federal Government	9	(1)
Other medical practice	23	(1)
Not in practice	1,188	8
Retired	1,061	7
Not in practice	127	1
Unknown practice	986	7

[1] Less than 0.5 percent.

Source: Pennell, Maryland Y. Osteopathic College Alumni. Submitted for publication in Journal of American Osteopathic Association.

Dr. TERRY. If I may, Mr. Chairman, I would like to call your attention to this publication—the Health Manpower Source Book, section 10, which has been prepared by the Public Health Service. It goes into great detail with regard to physicians' age, type of practice, and location, and also with regard to cities, counties, and States. I believe it would be of interest to the committee.

The CHAIRMAN. You may submit that for the files and information of the committee, Dr. Terry. We will be glad to have it.

Dr. TERRY. Thank you, sir.

The CHAIRMAN. Do you have extra copies of it?

Dr. TERRY. Yes, sir; we can provide them, sir.

The CHAIRMAN. Thank you.

Mr. SPRINGER. Mr. Chairman. Governor Thomson, would you yield for just one question?

Mr. THOMSON. Certainly.

Mr. SPRINGER. Can you tell me in general terms whether or not statistics indicate at the present time that there is an overall shortage of physicians, doctors, and nurses, in this country and if there is a shortage, could you tell this committee approximately what it is?

Dr. TERRY. This question of whether there is a shortage or not involves a judgmental factor.

Mr. SPRINGER. That is a debatable question at this time?

Dr. TERRY. There is obviously a shortage in certain localities, particularly in our small towns and more rural areas, but whether one can say that there is an overall national shortage of any specific size or number is open to question, sir.

Mr. SPRINGER. Thank you.

The CHAIRMAN. Mr. Hemphill?

Mr. HEMPHILL. Thank you, Mr. Chairman. Mr. Secretary, I received a call yesterday afternoon and was asked to inquire if optometrists were included in the scope of this legislation. Are they, sir?

Secretary RIBICOFF. No, they are not. I think I have answered that question three times. I will be glad to do it again. In the first place, we don't find that the basic need is as great among optometrists. There has never been a national survey or study on this problem as there has been regarding dentists and the doctors.

Furthermore, we have to make a start on the basic needs. We believe the basic needs are here and it would be most unfortunate if we would hold up or fail to take into account the supplying of the basic need waiting for the surveys in every health field.

Mr. HEMPHILL. I am sorry if I asked you to repeat the answer. I didn't hear you yesterday and I was here most of the time. I had to go out for 10 minutes; but the legislation is confined absolutely to doctors, dentists, and osteopaths?

Secretary RIBICOFF. That is correct, Congressman Hemphill.

Mr. HEMPHILL. Thank you.

The CHAIRMAN. Mr. Dominick?

Mr. DOMINICK. Thank you, Mr. Chairman. Mr. Secretary, if I may, I would like to dig in a little bit on this question of need. You have lumped in this bill three or four categories of people. Do your records show which is the most needed from the point of view of health service—dentists, or osteopaths, or doctors?

Secretary RIBICOFF. In the projected requirements for dentists, the present number of dental graduates is 3,200. The number who will be graduated in 1975, at present and planned levels of graduates, would be 3,500. The number of graduates needed in 1975 to maintain the 1959 ratio of dentists to population is 6,200. The present number of first-year dental school places is 3,600. The number of first-year places needed in 1971 to provide 6,200 graduates in 1975, alllowing for about 10 percent attrition, dropping out, is 6,900. So you find a very great need in the field of dentistry as we take the ratio of dentists to population, using the 1959 figures.

Mr. DOMINICK. Would you say that dentistry then is the most important item that we should get to?

Secretary RIBICOFF. I would say it isn't the most important item, but if you take the percentage of need the proportion of projected shortage is greater in the dental profession that it is in the medical. However, I think we need more doctors, too.

Mr. DOMINICK. I know that is your opinion. I gather that this is a question of opinion as to whether we have a shortage of doctors now or not. Is it also a question of opinion as to whether we have a shortage of dentists now or not?

Secretary RIBICOFF. Well, we believe everything is a question of opinion. I would suppose, listening to the gentleman from Minnesota and the gentleman from Alabama, that if you would talk to them about their respective States, they would tell you definitely there is a shortage. This becomes a grave problem. There may not be a shortage in a prosperous community, or many prosperous communities in the United States. The supply may be ample, but unless we produce more doctors I don't know how we are going to take care of the problem in Mr. Roberts' district or the problem in, I believe, Mr. Nelsen's district.

Mr. DOMINICK. Let me go on a little further. I want to get this down for the record. Would you say, therefore, that from the point of view of dentists and doctors, part of the problem is in distribution, where they are located?

Secretary RIBICOFF. I would say that that would represent part of the problem, but I am also thinking ahead and not worrying so much, sir, about today. I am worrying about the problems 10 years from now. I do think we have an obligation to worry about our Nation's future in the problems of vital health needs with a growing population and a continuing requirement of additional medical care as our health discoveries continue and our population grows older.

Mr. DOMINICK. Would you say that part of the problem that we are faced with at the present moment is simply distribution?

Secretary RIBICOFF. I would say that that is part of the problem, yes.

Mr. DOMINICK. Would you say that this bill if passed is going to change the situation with respect to distribution?

Secretary RIBICOFF. I would say it would change it in this respect. If a young man or woman graduates from a dental or medical school heavily in debt, I think he or she will gravitate toward the community where the financial return would be the highest to enable such an individual to pay off the debt so much faster.

It is my feeling that if such persons were not in debt, they might follow their natural proclivities to go to the community that might mean the most to them, to go back to their hometown or go back to where their family may be.

Mr. DOMINICK. There is nothing in this bill which would orient any of the new graduates who would be obtained presumably if we build these schools to go into the areas where there is a shortage of doctors or dentists, is there?

Secretary RIBICOFF. I would hope the day would never come in the United States when by any legislation we would tell anybody where to live or where to earn a living. I would certainly be against writing into any legislation a requirement as to where a person should live or practice his profession or business.

Mr. DOMINICK. Have you received any assurance that any new schools will be built if this bill is passed?

Secretary RIBICOFF. In talking to the deans of the medical schools we have had an indication from them that they would expand their schools. From conversations with people from around the country there is an indication that there would be an interest in building schools if they had Federal contributions.

Mr. DOMINICK. Where would this be? Do you know?

Secretary RIBICOFF. From Medical Education in the United States, Journal of the American Medical Association, vol. 178, No. 6, November 11, 1961. I will read this paragraph:

> Five universities are now developing plans for establishment of new medical schools. Brown and Rutgers Universities during the present year announced decisions to initiate 2-year programs in the basic medical sciences. Earlier commitments by the Universities of Connecticut and New Mexico for the development of 2-year schools have been furthered by the acquisition of construction and planning funds from their State governments and the Kellogg Foundation. In Texas, a site has been selected in the San Antonio area and funds have been committed for the establishment of the South Texas Medical Center. This will be developed as the third medical schol of the University of Texas and construction of new facilities will be initiated in the immediate future.
>
> In addition to these five assured new medical schools, favorable decisions can be expected to result from some of the many feasibility studies which are now underway in almost every region of the country. Under the auspices of universities, State or local governments, or State or county medical societies, serious study of the possibility of establishing one or more new medical schools is being undertaken in Arizona, California, Idaho, Illinois, Maine, Massachusetts, Michigan, Minnesota, New York, and Ohio.

Mr. DOMINICK. These are medical schools, not dental schools.

Secretary RIBICOFF. We are talking about medical schools here. This comes from the Journal of the American Medical Association.

Mr. DOMINICK. Let me ask just a few more questions. Do I understand this bill to say that each dental or medical school will get the same amount of money regardless of quality or length of time of study?

Secretary RIBICOFF. No. The discretion is in the Surgeon General. Where you have a new school or a major expansion of the facilities of an existing school, the Surgeon General with the advice of the Advisory Council can grant up to 66⅔ percent of the construction costs. The exact amount determined would be based on all the factors of need for the facility, the number of additional students to be admitted, the type of building, the basic community needs, and so forth.

If you are to renovate obsolescent buildings in which you are not having admission of additional dental or medical students, the Surgeon General has the discretion up to 50 percent. It is not an absolute figure, but is a discretionary figure up to 66⅔ percent in the first case and up to 50 percent in the second case.

Mr. DOMINICK. Section 726 of this act specifically provides that no one in the Government shall have any supervision or control over personnel, or curriculum, or methods of instruction, or administration of any institution. Would this also mean that any school regardless of the type of curriculum would be entitled to a grant?

Secretary RIBICOFF. No. It would have to be an approved school—one that is accredited. If it weren't accredited it would not be eligible. It would have to be a school that would be accredited.

Mr. DOMINICK. Is there a provision in the bill for that?

Secretary RIBICOFF. On page 3 section 721(b) reads:

To be eligible to apply for a grant to assist in the construction of any facility under this part, the applicant must be (1) a public or other nonprofit school of medicine, dentistry, osteopathy, or public health and (2) accredited by a recognized body or bodies approved for such purpose by the Commissioner of Education, except that a new school which (by reason of no, or an insufficient, period of operation) is not, at the time of application for a grant to construct a facility under this part, eligible for accreditation by such a recognized body or bodies, shall be deemed accredited for purposes of this part if the Commissioner of Education finds, after consultation with the appropriate accreditation body or bodies, that there is reasonable assurance that the school will, upon completion of such facility, meet the accreditation standards of such body or bodies.

Mr. DOMINICK. What body or bodies would this include who would have the right to say whether these schools are eligible or not?

Secretary RIBICOFF. Medical schools are approved jointly by the Council on Medical Education and Hospitals of the American Medical Association and by the Association of American Medical Colleges. For dentistry the organization that does the accrediting is the Council on Dental Education of the American Dental Association.

Mr. DOMINICK. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Kornegay.

Mr. KORNEGAY. Mr. Secretary, I gather from your statement that you feel that under the scholarship program if it were changed from grants to loans it would lose some of its attractiveness, is that correct, sir?

Secretary RIBICOFF. I do.

Mr. KORNEGAY. You may have been over this before, but would you mind very quickly amplifying your reason for it?

Secretary RIBICOFF. The reason for it is that today a bright young man in the sciences has open to him fellowships and scholarships in many of the fields that might interest him. Such an individual would find that after a much briefer period of study, not in any way comparable to what it would be to be a full-fledged practicing doctor, he could then expect substantial financial returns, equivalent to or even greater than that of a doctor. Certainly these young men who might come from lower income brackets might be unwilling to undertake the long, arduous course of study and then, after they get out in the practice of whatever profession they may choose, to have a substantial debt hanging over their heads.

Many of these young men and women find themselves in the position where they have already gone into debt to acquire their basic college education. Now, to suddenly find themselves going further into debt for medical education which will cost them approximately $12,000—$11,600 is the 1959 figure—for 4 years, to go into internship where the pay is nominal, to say the least, or residency at a very, very small salary, is a discouraging factor.

Furthermore, deans of medical schools are concerned about the sharp decline in the number of better qualified students who apply for medical schools as compared to 10 years ago. It is our belief that, to encourage high quality of applicants and to attract back to medicine men who are in the top levels of their classes, we must open up opportunities for these people to find scholarships at least equivalent to what they can acquire in the other science fields.

Mr. KORNEGAY. In other words, it boils down to a matter of competition.

Secretary RIBICOFF. Competition is a very decided factor.

Mr. KORNEGAY. This is a question which probably should be directed to Dr. Terry.

Doctor, is there any feeling in the medical profession that there is a point in enrollment above which a medical school cannot go and still maintain the excellence that it desires?

Dr. TERRY. Yes; I think this is very definitely true. It will vary from institution to institution, but I think that we are quite confident today that our medical schools are enrolled up to the hilt in terms of what they can do in maintaining the quality and taking the most students possible. We have to have more facilities and more physical facilities in order to take more medical students and still maintain quality.

Mr. KORNEGAY. And if most of the medical schools of the country have reached their optimum or maximum capacity, then it is going to be necessary to look to construction of new schools, is that right?

Dr. TERRY. It is going to be necessary to expand existing schools and to construct new schools. Over several years the medical educators have been aware of the difficulties that we project for the future unless we do expand our enrollment. As a consequence I think I can say without exception each individual school has looked very critically at what is the largest number of students it can take and still do a quality job, and I believe we are about as close to that today as we could ever get.

Mr. KORNEGAY. Do you have a figure? I realize it would vary and you probably have to state it in ranges, what, in your opinion, is that figure or what would the range be in the enrollment in medical schools and still maintain quality in medical education.

Dr. TERRY. Today with the physical facilities and the faculties that we have available about 8,200 new students are being accepted each year by schools of medicine and osteopathy. This is overall. Now, you will find a tremendous variation in terms of the individual schools because of some of their physical facilities are obsolete, they are struggling along with buildings that are practically falling down around their neck, and under those circumstances they are taking all of the students that they can.

Some of our schools have been able to expand in the last few years, and in the past 10 years we have had six new medical schools established, but even so, today we are still at that level where we are talking about the need for 12,000 entering medical students by 1971, to provide 11,000 graduates in 1975. Our facilities available today can only accept 8,200.

Secretary RIBICOFF. I would like to give you a figure that might be of interest to you as to why scholarship grants are needed instead of loans. Forty-three percent of the 1959 medical school graduating class came from the 12 percent of the American families having incomes of over $10,000.

Now, in the United States, in 1959, 45 percent of the families were in the income group of under $5,000. Yet 1959 medical school graduating classes who came from families with incomes under $5,000 represent only 14 percent, so you had 45 percent of families and yet only 14 percent of the graduates came from these families. This indicates that this is certainly a discouraging factor for the brighter young men from lower income families who are reluctant to assume a debt for medical school over their normal debt.

Mr. Dominick, on the question about dental schools, our records show that there is specific interest to build dental schools in the following locations: Connecticut, Georgia, Oklahoma, Cincinnati, Colorado, Florida, South Carolina, and Massachusetts.

Mr. DOMINICK. Thank you.

Mr. JONES. Mr. Kornegay, in relation to your question of optimum enrollment, I think it should be clear that the optimum enrollment as represented now by capacity is limited by the availability of facilities. The medical schools have indicated to the Association of American Medical Colleges, in a recent survey, that with the availability of assistance of the kind proposed in this legislation, the existing schools of medicine could increase capacity by some 1,700 new students with new facilities and the kind of support that is envisioned in this legislation, and still maintain the quality of the educational program at this expanded level.

This would be in addition to new schools that would provide for additional capacity.

Mr. KORNEGAY. I had heard the statement made by some of the medical people that there is a point beyond which you could not go in medical training, in education, regardless of the facilities because of the close relationship between the professor and the student.

Mr. JONES. This is a judgment by each school in terms of its own environment and its own capacity, and as adjudged by the accrediting agency as they make their periodic studies of the quality of education at each institution. But the point is that the schools themselves, keeping in mind quality, do say that they can undertake a major expansion if they have the kind of support this legislation would make available with which to help do the job.

Mr. CURTIN. Would the gentleman yield at that point?

Mr. KORNEGAY. Yes, indeed.

Mr. CURTIN. Thank you, sir. Mr. Secretary, you have just indicated the financial background of some of the students in the medical schools. That brings up a question in my mind as to what is going to be the criteria upon which scholarships are going to be awarded?

How are you going to pick between those that get scholarships and those who do not?

Secretary RIBICOFF. Each school would make its own determination, and I have the highest faith in the integrity of the deans of admission and the scholarship committees of every medical school in the country that they will take into account the factors of ability and need, and they will themselves make the determination of any sum that they believe a student needs to finish his education up to a maximum of $2,000. John Jones, they might feel, would need only $800, taking his family circumstances into account. They might have another young man who would need $2,000 in order to finish his education. So basically, it would be the deans of admission and the scholarship committees that would sift these applicants and come to the determination.

Mr. CURTIN. Do I understand then that need is going to be the primary factor?

Secretary RIBICOFF. I would say definitely that need would be the primary factor. It certainly is provided that way in the bill. Page 16, line 12, reads:

> Scholarships awarded from grants under subsection (a) for any school year shall be awarded to talented students on the basis of need for financial assistance in pursuing a course of study at the school for such year.

Mr. CURTIN. Mr. Secretary, as you know the Kerr-Mills bill uses need as the main criterion for getting medical care relief and, as you also know, that has come in for some very serious criticism. Don't you think similar criticism is going to apply here?

Secretary RIBICOFF. I don't think there is any comparison at all between them. We have always recognized in education the concept of a scholarship program based upon giving the scholarships to those who not only are qualified, but who may be in need, to pursue an education. We are opening up opportunities. What is bad with the Kerr-Mills bill is that there the criterion of need is based on a sum so low, and the cost of hospitalization care is so high, that it hits thousands upon thousands upon thousands of Americans who do not have the income and the means to pay hospital bills of such a magnitude.

Mr. CURTIN. What financial background is going to be so low that a medical student would be entitled to a scholarship?

Secretary RIBICOFF. Well, if a boy has no resources from his family or outside help, he is going to have to have $2,000. If it will cost $2,500 a year and a boy could find resources through work or through a family of $1,500, the need there would be a thousand dollars in order to complete his education, a thousand dollars a year. These are all factors that are weighed by scholarship committees with questionnaires, and a survey, and investigation of the resources of each individual boy and his family. So I don't think you can set a hard and fast rule.

It is a question of making sure that you have a meeting of qualifications, plus resources, plus need, to finish your education. That is why the discretion is placed within each university to determine how much and the size of the scholarship that each boy will get.

Mr. CURTIN. As I understand it, approximately a fourth of the students of each class will eventually be getting these scholarships if this bill is enacted into law?

Secretary RIBICOFF. There will be an amount granted to the school equivalent to a fourth of the student body eventually. It starts in the freshman class, multiplied by $1,500. Then the amounts that will be given out as scholarships to individual students will be anywhere from a low sum up to $2,000. Depending upon the number of scholarships the school gave out from its grant, you might have more than a quarter or less than a quarter of the students eventually getting these scholarships. That would depend on the way the school distributed the one-quarter times $1,500 that each school will have.

Each school will make its own determination as to the size of the scholarship to each individual.

Mr. COLLIER. Will the gentleman yield there for one question?

Mr. CURTIN. I don't have the floor.

The CHAIRMAN. We will go off the record.

(Discussion off the record.)

Mr. CURTIN. I have no further questions.

Mr. COLLIER. I respectfully withdraw my question.

Mr. KORNEGAY. I have no further questions, Mr. Chairman.

The CHAIRMAN. Mr. Roberts?

Mr. ROBERTS. Mr. Chairman, I am very reluctant to say anything at this point, but I would like to compliment the Secretary on his affirmation and reaffirmation of his belief in local control in the schools. I would also like to compliment him on his wonderful appearance before this committee, and without attempting to blemish his radiance, I would like to say I think part of his success here has been due to the fact that he is flanked by a fellow Alabamian, Dr. Terry, the Surgeon General, and Dr. Jones, of my neighboring State of Georgia. He has been subjected to two wonderful influences and I am happy to have all of them.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Collier?

Mr. COLLIER. I have just one question, and I think it is entirely worthwhile to ask. We know when a teacher participates in the National Defense Act, that is, a student, and he gets a loan, after 5 years of teaching a percentage of the loan is waived.

Using the same rule of thumb and using the figures from your statement that it requires 1 to 6 additional years as an intern, resident, or fellow, in a specialty, why then would it not be just as justifiable where you have been a student who has participated in his premedical under a National Defense Education Act loan to waive 50 percent of such indebtedness that he would have after he completes his internship?

Secretary RIBICOFF. It is a very interesting suggestion. This is the first time I heard that one made. It is very interesting. I wouldn't want to dismiss that with an offhand answer. I think that is worthy of thought as to how it would work out.

In other words, do I understand you correctly that if a young man has a National Defense Education Act loan of a thousand dollars a year for 4 years, let us say, and he goes on to medical school, the same young man, because he is going into a shortage profession, could

get a credit or forgiveness on his loan for each year that he takes to complete his medical education and goes into internship?

Mr. COLLIER. That is right. Since we provide the incentive of the waiver of 50 percent of the loan to the teacher, it would seem to me that this would properly and justifiably apply in this field.

Secretary RIBICOFF. Offhand, I would like that a lot better than the suggestion that it all be loans in the first instance, but I don't have the figures, and awaiting that, I would have to give some thought as to about what percentage of men would go on to medical school with this particular type of loan.

What do we do about a young man who might have a loan not from the Government? There are some loan funds that are being established in various States, as you know, to loan to students, or their fathers might go to a bank and borrow money for a college education. What worries me is would we be discriminating in favor of that young man who got his money from the national defense education fund. If there is to be some sort of forgiveness program this seems attractive to me, but I don't know the full implications. Congressman Collier, I think you made a very interesting point.

Mr. COLLIER. I mention that, Mr. Secretary, because admittedly there are thousands of students who, as you know, reach their second year of college without having determined by this time just what profession they will pursue, and this might well provide an incentive, as it does to students who go into the teaching profession.

Secretary RIBICOFF. What I would like to determine, which I will try to find out because your point is so interesting, is whether there are any figures which would indicate how many students with loans, undergraduates, under NDEA, then going into medical school. I am going to see if we have such a record available. I think you have raised a very interesting point, Congressman Collier.

(The information mentioned above follows herewith:)

Based on a sample of about 150,000 NDEA student loan borrowers in 1961, 7.4 percent said they intended to enter occupations in the medical sciences field. The component occupations were as follows:

Field	Percent of all borrowers	Estimated number of borrowers
Total medical sciences	7.4	11,043
Medicine	4.0	6,122
Dentistry	1.4	2,135
Medical technology	.5	695
Nursing	.9	1,301
Physical or occupational therapy	.2	253
Veterinary medicine	.4	537

Source: Unpublished data from the U.S. Office of Education.

These figures include both candidates for the bachelor's degree and for professional degrees.

Mr. COLLIER. That is all, Mr. Chairman. Thank you.

The CHAIRMAN. Mr. Staggers.

Mr. STAGGERS. Mr. Secretary, I, too, wish to congratulate you on your support and interest in this legislation which I think is basic to the strength of America. I believe that is the reason the bill is before Congress at the time that those who have thought of the future

of this program deem it wise, and that means the administration and others, that some sort of legislation be enacted for the future of the Nation. As Dr. Terry, I believe, explained, in 1975 the estimate was we needed 11,000 physicians. Is that right, Dr. Terry?

Dr. TERRY. Graduated per year; yes, sir.

Mr. STAGGERS. And at the present rate unless it is enlarged there will be only between 8,000 and 9,000, is that correct?

Dr. TERRY. Yes, sir.

Mr. STAGGERS. It shows that something must be done. I believe most of the States are doing what they can do. If they could do more they probably would do it. I know our State is doing what it can with our medical school. They built a new modern medical school which is costing some $30 million, which the State paid for, but unless they do get some help they are not going to be able to expand and perhaps do the job they need to do.

Looking at the basic principles of the bill, "to increase the opportunities for training of physicians, dentists, and professional public health personnel, and for other purposes," would not this be the basic premise of the bill then: To give to those young men and women an opportunity to attend medical school who now do not have the opportunity?

Secretary RIBICOFF. That is correct.

Mr. STAGGERS. Not only moneywise. Today the medical profession is composed of those who have money and could afford to go to school. Is that basically right?

Secretary RIBICOFF. I would say that this is happening in too large a proportion of cases. I don't think it is wrong for a young man of means to attend medical school, but I think that what we must make sure is that we afford opportunities for young men without means who might desire to go to medical school to do so.

Mr. STAGGERS. Isn't that the basic premise of our Nation, and I mean the Constitution, that everybody have equal rights? I am like you; I believe the rich, if they have the qualifications, and ability, and the inclination, should go to medical schools, but I believe, too, that those young men and women who have the ability and the desire but not the means should have the opportunity in this land and that we just don't price them out of the market.

Secretary RIBICOFF. That is correct.

Mr. STAGGERS. And it has gotten to that point today.

Secretary RIBICOFF. That is correct.

Mr. STAGGERS. I think that is one of the basic things perhaps in the bill. The next then is to give an opportunity to all, whether they have the money or not, of facilities to attend school. I know in my community and in my district I see hundreds of young men and women who would like to go to medical school and they can't get into medical school, some of them because of money and others because maybe they just don't rate in the top 10 and they have to go out of the State or something like that. They had to in the past. Let us put it that way. They have trouble getting to medical school also because of the lack of facilities. This then opens up the avenue both ways in giving to all Americans, if they have the ability the inclination or desire to go, the opportunity to serve in this field, and we have been trying to provide it, I think, in most other fields.

Again I want to congratulate the Secretary and his assistants.

The CHAIRMAN. Mr. Glenn?

Mr. GLENN. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Williams?

Mr. WILLIAMS. Mr. Secretary, I would like to take just a moment to congratulate you on making a splendid presentation to this committee. As I mentioned to you yesterday, there is one phase of this that I think perhaps has not been covered completely and I would like to go into that for a moment. Having been in hearings of this nature on legislation of this type for the past 8 or 10 years, I would think that the mere addition of numbers of doctors would not necessarily solve the problem that you are seeking to solve. I have reached the conclusion that our chief problem in this field lies in lack of availability of doctors to the public, and distribution. To some extent you have already covered the distribution of doctors and the difficulties that we have in connection with bringing about a proper distribution of doctors.

However, you touched very lightly on the subject of the availability, and, of course, one of the elements being distribution. The other element in my opinion is in specialization or overspecialization. Do you have statistical data which would give us the numbers of specialists as opposed to the numbers of general practitioners?

Secretary RIBICOFF. The latest figures we have are for 1959. First, we had a total of 236,089 doctors. In private practice there were 160,592; in general practice and part-time specialty, 81,957; full-time specialists, 78,635; and not in private practice, 65,180.

Mr. WILLIAMS. When you say not in private practice, what category is that?

Secretary RIBICOFF. I will now give them to you. Hospital service, except Federal, 39,730; teaching, research, public health, 7,931; in Federal service, including military service, 17,519.

The CHAIRMAN. How many?

Secretary RIBICOFF. 17,519; retired doctors not in practice, 10,317. Taking the percentages, 35.6 percent are in general practice and 33.5 percent are in full-time specialty practice.

Mr. WILLIAMS. When you consider the numbers of doctors that we have in proportion to the population you have to subtract, of course, that 10,000 that you mentioned who were retired.

Secretary RIBICOFF. That is correct.

Mr. WILLIAMS. So that removes 10,000 doctors from service to the public. In addition to that you would have to remove—what is it?—16,000 in Government service and institutional work.

Secretary RIBICOFF. That is about right.

Mr. WILLIAMS. And you would also have to remove to some extent some of the specialists as being immediately available to the public, which reduces considerably the number of doctors who are available to the public for treatment of ailments that might arise in the home. I have found that one of the most difficult problems that we have to encounter is that of getting a doctor to our home when we need him, and I think everybody else has had that same problem, especially at night. Do you think that the passage of this act will help alleviate that situation?

Secretary RIBICOFF. I would say by increasing the supply of doctors you would be in a position of having more doctors available to treat the people. Many of these doctors are overworked. I would like to read from the Bane Committee report on specialization because it might be most pertinent to see the growth of specialization in the United States.

The Bane Committee report points out:

A fundamental change in medical practice, and the one which has had the greatest impact on medical care, is the greath growth of specialization. In 1931 only one private practitioner in six considered himself a specialist; by 1940 one in four. Today almost half of all physicians in private practice limit themselves to specialty practice. For many people the function of the family physician is now served by the specialist in internal medicine and the pediatrician. These two groups with the general practitioner make up the family physician potential today. Even so, the number of potential family physicians has actually decreased from 117,000 in 1931 to 102,000 in 1957.

Mr. WILLIAMS. Decreased?

Secretary RIBICOFF. Decreased.

In recognition of the need for good family physicians a special committee of the American Medical Association has developed a recommendation for 2-year training programs which students can enter immediately upon graduation from medical school. It will emphasize internal medicine, pediatrics, obstetrics, and minor surgery.

So I must admit from the records and the statistics that your comment that there has been a decline in people in general practice is borne out by the facts.

Mr. WILLIAMS. The general practitioner is obviously the one that is closest to the family or closest to the people. I realize that there is nothing that the Government can do to encourage general practice unless we do adopt some kind of a loan program which is similar to the one that we have in Mississippi which would encourage or give an incentive to the young medical graduate to go into general practice for a certain period of years.

I live in a rural area, as you know. I have found, and my experience has been, that whenever there is one doctor in a given community and another doctor moves into that community, even though the first doctor may be overworked, one of them goes off and takes a residency and gets some specialty, moves to the city, and that still leaves us with a shortage of medical care.

Is there anything that we can do to alleviate that situation other than by providing some kind of a loan incentive?

Secretary RIBICOFF. I don't know whether that would do it. To be frank, I would have to give this a lot of thought.

Mr. WILLIAMS. That is the reason I am inclined to lean more toward the scholarship loan than I am the outright grant.

Secretary RIBICOFF. The problem that worries me, Mr. Williams, is trying today to anticipate what the basic needs and the pattern of our Nation will be 10 years from now. What I am worrying about, frankly, is not today, because what we do today will not affect the supply of doctors today. In other words, all of us are aware of the tremendous shift in this country from a rural economy to an urban economy. This is taking place very, very rapidly. I am sure that everybody in this room, including yourself, has seen the fantastic change of the pattern, whether it is in Mississippi, or Maryland, or Connecticut, Pennsylvania, or New York. There has been this shift,

which I am sure is taking place in the growth of your large cities and the decline of your rural population.

I would be deeply concerned at trying to write in a pattern of action now, anticipating what might take place 10 years from now, and find 10 years from now what we have provided for is no longer the problem. What we are trying to do is to cope with a problem that will be acute 10 years from now. This is the basic duty that you have and I have, looking forward to the future needs of our country. By the time you pass this bill and get your planning grants, and get your medical schools built, and get your young men into medical schools, with 4 years of medical school, and the years of internship and training, 10 years have gone by.

I would hope that we would be farsighted enough not to try to write in a formula concerning a condition which may not prevail 10 years from now. Who knows what the pattern will be then? I find, not so much in the East but in the Middle West—I haven't had the experience in the South—a great growth of group practice where a group of doctors in specialties gather together, practice together. They might be set up in the small town that serves a large rural area where they can take care of all the basic needs in one place of whatever health need may be in that entire area.

Whether this is taking place in the South I don't know.

Mr. JONES. It is.

Secretary RIBICOFF. It is. So you might find, whether it is in Mississippi, Arkansas, or Connecticut, or Colorado, or California, that group practice may be an answer. There will be great changes, and what I am deeply concerned with, Congressman Williams, is that we be farsighted enough in this country to make sure that as our population grows we suddenly don't find ourselves bereft and without enough doctors to take care of the health needs. I would be more concerned about that than just what the pattern will be between rural and urban areas, because I have the feeling that in 10 years from now the shift of population and the methods and medicine, itself, that develop will take care of the basic needs of most of our population.

Mr. WILLIAMS. I am sure all of us agree with the objective that you have in mind, but I would repeat that in my opinion the mere condition of numbers of doctors does not necessarily meet the problem that we are faced with. I think that the primary problem is the availability of medicine to the family, or the availability of medical care and treatment for the families of the country. I have found even here in Washington, as a matter of fact even more so in Washington, in the home it is extremely difficult to get hold of a doctor at night. You have to call some kind of a medical exchange or something. You don't know what doctor you are going to get in touch with. The doctors all see to it that their numbers are unlisted where you can't reach them at home, and I think that that is the thing that we should be directing our attention to; that is, bringing medicine back closer to the people.

In my opinion, overspecialization of the profession certainly removes medicine from the people. Not only that, but it increases the cost of medicine and medical care. All of us would like to see the numbers of doctors increase. I think that we should make certain that we get a good distribution and that the increase results in bringing medicine closer to the people.

Secretary RIBICOFF. I would say this, Congressman Williams, while your concern is very well taken, the problem would be even greater if there were fewer doctors instead of more.

Mr. WILLIAMS. I grant that.

Secretary RIBICOFF. I think it is a problem that deserves the concern of the AMA and the concern of every State and county medical association in the United States. I know that doctors are concerned with this. They often set up a panel, with some rotation, to make sure that there are always on call, 24 hours a day, enough doctors to take care of emergency needs. I do have enough confidence—although I have had my quarrels with the AMA and probably will in the days ahead—in the bona fides of the medical profession to believe that this is a problem that they are addressing themselves to and will address themselves to more and more in the future. The good will and the standing of the medical profession basically depends on the feeling of the public that they are being served and served properly and that doctors are available to take care of the basic health needs of the American people.

Mr. WILLIAMS. I yield to the gentleman from West Virginia.

Mr. STAGGERS. I just want to know if you have the figures, Mr. Secretary, of the ratio of practicing doctors and people they serve today in the United States.

Secretary RIBICOFF. I didn't get that question.

Mr. STAGGERS. I mean each practicing doctor in common medicine who answers the ordinary call: How many people would he have to serve of our population according to the doctors' availability?

Secretary RIBICOFF. If you use the potential family physician total, and not the specialists, he would have about 1,700 people to take care of.

Mr. STAGGERS. 1,700?

Secretary RIBICOFF. When we use the family physician potential, which includes general practice pediatrics, and internal medicine, that would represent around 1 doctor for every 1,700 people.

Mr. STAGGERS. Thank you very much. Thank you, Mr. Williams.

Secretary RIBICOFF. And in dentistry it is 1 dentist for every 2,178 people. That doesn't prevail equally around the country because you have variations in ratios around the country that make a great deal of difference. In other words, if you would take the non-Federal doctors of medicine per hundred thousand civilian population in 1961, you run this way: New England has 159 doctors per hundred thousand; the Middle Atlantic States, 158 per hundred thousand; the East North Central, 114 doctor per hundred thousand; the West North Central, 110 doctors per hundred thousand; South Atlantic area, 111 doctors per hundred thousand; the East South Central area, 88 doctors per hundred thousand; the West South Central, 101 doctors per hundred thousand; the Mountain States, 111 per hundred thousand; and the Pacific States, 150 doctors per hundred thousand. As you can see, we have quite a variation in different sections of our Nation.

Mr. WILLIAMS. Do those figures include the retired doctors, the ones who are not in practice, the ones who are in some type of Government work or institutional work?

Secretary RIBICOFF. All doctors except Federal physicians. If you would like, we will insert in the record at this point the breakdown throughout the Nation in the different regions, both for doctors and dentists.

The CHAIRMAN. I think it would be appropriate for the record to have it, to be included at this point.

(The information referred to follows:)

Physicians (M.D. and D.O.) and dentists, numbers and rates per 100,000 persons in each geographic region, division, and State

Region, division, and State	Number of physicians, 1961			Number of dentists, 1960	Rate per 100,000 civilians [1]			
					Physicians			Dentists
	Total	M.D.	D.O.		Total	M.D.	D.O.	
United States [2]	261,622	247,272	14,350	102,340	141	133	8	56
Northeast	74,655	71,511	3,144	31,110	165	158	7	70
New England	17,573	16,827	746	6,646	166	159	7	64
Connecticut	4,327	4,261	66	1,733	166	164	2	68
Maine	1,192	971	221	440	123	100	23	45
Massachusetts	9,405	9,095	310	3,520	181	175	6	68
New Hampshire	838	809	29	287	137	132	5	47
Rhode Island	1,178	1,096	82	482	139	130	10	56
Vermont	633	595	38	184	160	151	10	47
Middle Atlantic	57,082	54,684	2,398	24,464	165	158	7	72
New Jersey	8,095	7,612	483	3,849	131	123	8	63
New York	32,785	32,252	533	13,811	193	190	3	82
Pennsylvania	16,202	14,820	1,382	6,834	142	130	12	60
South	58,996	56,840	2,156	19,465	107	103	4	36
South Atlantic	29,885	29,008	877	9,491	114	111	3	37
Delaware	567	529	38	170	126	118	8	38
District of Columbia	2,542	2,522	20	721	343	340	3	94
Florida	6,758	6,242	516	2,296	131	121	10	46
Georgia	3,688	3,609	79	1,092	94	92	2	28
Maryland	4,321	4,299	22	1,259	138	137	1	41
North Carolina	4,265	4,226	39	1,345	94	93	1	30
South Carolina	1,830	1,821	9	503	78	77	(3)	21
Virginia	4,140	4,104	36	1,402	106	105	1	35
West Virginia	1,774	1,656	118	703	96	90	6	38
East south central	10,785	10,658	127	4,082	89	88	1	34
Alabama	2,486	2,483	3	955	76	76	(3)	29
Kentucky	2,752	2,711	41	1,100	90	89	1	36
Mississippi	1,686	1,683	3	599	77	77	(3)	28
Tennessee	3,861	3,781	80	1,428	107	105	2	40
West south central	18,326	17,174	1,152	5,892	108	101	7	35
Arkansas	1,597	1,570	27	548	90	88	2	31
Louisiana	3,664	3,649	15	1,164	111	110	1	36
Oklahoma	2,653	2,262	391	904	114	97	17	39
Texas	10,412	9,693	719	3,276	108	101	7	34

See footnotes at end of list.

Physicians (M.D. and D.O.) and dentists, numbers and rates per 100,000 persons in each geographic region, division, and State—Continued

Region, division, and State	Number of physicians, 1961			Number of dentists, 1960	Rate per 100,000 civilians [1]			
	Total	M.D.	D.O		Physicians			Dentists
					Total	M.D.	D.O.	
North central	64,412	59,098	5,314	28,307	123	113	10	55
East north central	45,276	41,999	3,277	19,495	123	114	9	54
Illinois	13,264	12,888	376	6,249	130	126	4	62
Indiana	4,815	4,621	194	2,143	102	98	4	46
Michigan	10,349	8,705	1,644	3,960	131	110	21	51
Ohio	12,461	11,562	899	4,660	126	117	9	48
Wisconsin	4,387	4,223	164	2,483	109	105	4	63
West north central	19,136	17,099	2,037	8,812	123	110	13	57
Iowa	3,244	2,792	452	1,610	117	101	16	58
Kansas	2,445	2,236	209	1,015	114	104	10	47
Minnesota	4,742	4,663	79	2,346	137	135	2	69
Missouri	6,070	4,894	1,176	2,369	139	112	27	55
Nebraska	1,580	1,518	62	894	111	107	4	63
North Dakota	524	510	14	273	83	81	2	43
South Dakota	531	486	45	305	78	71	7	45
West	43,732	39,996	3,736	16,480	153	140	13	60
Mountain	8,427	7,735	692	3,236	121	111	10	48
Arizona	1,524	1,347	177	470	111	98	13	36
Colorado	2,956	2,717	239	1,018	169	155	14	58
Idaho	626	586	40	311	92	86	6	47
Montana	704	652	52	354	105	97	8	52
Nevada	321	290	31	129	111	100	11	45
New Mexico	842	728	114	258	88	76	12	27
Utah	1,147	1,126	21	535	126	124	2	60
Wyoming	307	289	18	161	91	86	5	49
Pacific	35,305	32,261	3,044	13,244	164	150	14	63
California	28,040	25,379	2,661	9,550	174	158	16	61
Oregon	2,485	2,323	162	1,323	139	130	9	75
Washington	3,948	3,743	205	1,930	139	132	7	68
Alaska	124	123	1	56	62	61	1	25
Hawaii	708	693	15	385	119	116	3	61
Other areas:								
Puerto Rico	1,334	1,334	0	362	56	56	--------	15
Outlying areas	142	142	0	31	64	64	--------	14
Federal	(4)	18,351	(4)	6,585	--------	--------	--------	--------

[1] U.S. rates based on total population including Armed Forces overseas.
[2] Includes 50 States, the District of Columbia, Puerto Rico, outlying areas, and Federal.
[3] Less than 0.5.
[4] The 9 osteopaths in Federal service are included in State figures.

The CHAIRMAN. Do any other members of the committee have any questions?

Mr. O'BRIEN. Mr. Chairman, may I ask one question?

Secretary RIBICOFF. May I say this? The medical school inquiry provided by your staff, as Mr. Williams points out, indicates that the Mississippi State scholarship program is probably the most extensive of all State programs designed to aid medical students.

Mr. WILLIAMS. Thank you. We are quite proud of our program down there and, if you will notice, this was back in 1957 when this report was made. That program was relatively young then, but it was already beginning to get results. It is indicated that 191 doctors were in general practice in rural areas in accordance with the terms

of their contract for their loan scholarship. We only have 82 counties and that program is really producing results.

That was, as I say, 4 years ago when the program was relatively young. I don't know what it might be now, but it resulted in making medical care available to the people of Mississippi.

The CHAIRMAN. Mr. O'Brien.

Mr. O'BRIEN. Mr. Secretary, I would like to pin down this question of need. We have this figure of 141 physicians for every 100,000 people today, as against 143 a decade ago. You could say it was about the same. Isn't it a fact that if there had been no population increase whatsoever in those 10 years, the demands on the doctors for service would have almost doubled because of people going to doctors more often than they used to because it is a better thing to do, perhaps because people are more enlightened, perhaps because they are economically better off, with more insurance money?

I remember as a youngster we had a bottle of castor oil and some sulfur and molasses for seven kids and we got a dose of one or the other and seldom saw a doctor. My son has a large and young family, with the oldest being seven, and there are six kids, and they have seen the doctors twice as much already in their short lives as we did up to the time we left home. So don't we have a situation here that makes the need much more acute than the statistics recited would indicate?

Secretary RIBICOFF. I would say there is no question that with each passing year, our population uses medical services more often than in the past. Whether doctors' services are used more than is actually needed is a question that many people actually raise, but with the increase in the economic status of most Americans and with the advance of medical science, it is true that people see doctors more often than they did 10 years, or 20, or 30 years ago.

Mr. O'BRIEN. Which I think is a good thing. We are healthier.

Secretary RIBICOFF. Yes, we are a healthier nation.

Mr. O'BRIEN. Thank you.

The CHAIRMAN. Does any other member of the committee have any questions?

Mr. Secretary, I have only two or three questions that I would like to ask, one or two for clarification, and one or two to obtain additional information. First, I want to say that I, too, am interested in the subject that Mr. Williams brought up about the distribution of doctors, and I think the primary purpose of this proposal should be, and I am sure it is, to have more doctors available to serve the needs of the American people and, at the same time, improve the quality of medical care.

Obviously, with more doctors being available, the problem Mr. Williams mentioned would more nearly take care of itself. However, is it not also true that the lack of clinical facilities in certain areas, especially in smaller towns, contributes to the fact that the doctors who come out of schools are reluctant to go into those areas?

Secretary RIBICOFF. I think that you have placed your finger on a very, very important factor. It is certain that doctors are attracted where the facilities are located and there is a reluctance for a doctor to practice where there is no hospital or clinic or community facilities.

The Hill-Burton Act, and also the Community Facilities Act that your committee passed last year, are both acts that will have a great

impact in bringing into the rural areas and the small communities excellent facilities which will give good surroundings and good opportunities for doctors to be able to practice their profession, and practice it well.

The CHAIRMAN. Of course the Community Facilities Act is a very limited program and it is not going to reach many of these smaller rural communities. As important as it is, there is an inclination as it is administered through the States, which we intended, to allocate the funds to those areas which are more readily capable of meeting the local requirements, and the rural areas seem not to get in on the ground floor.

I am speaking from my knowledge of the way it is administered in my own area. Second, in the Hill-Burton program, as fine as it is, and it has made a tremendous contribution throughout the country, it is obvious that you don't get Hill-Burton funds allocated to these small rural communities.

I suppose that is because—I am talking generally—the funds are generally used in the more populous areas. I know it is not a part of this legislation, but it does relate to it. It seems to me that we should have some kind of a program to go along with the Hill-Burton program where these smaller clinics might be encouraged and developed and in this way I think attract the doctors, and particularly young doctors, to those areas.

Secretary RIBICOFF. Mr. Chairman, if it would be your request that our Department look into this question that you have raised, I don't think we could do an adequate job for this bill, but I think we would be able to come back to you next year with a report.

The CHAIRMAN. In time I hope to go into that, but as I say, it is not a problem involved directly in this legislation. I hope the time will come when we will take a good look at that situation in reviewing the Hill-Burton program. Yes, I would like your Department to give attention to it at such time as you can.

Doctor Terry, in answer to Mr. Springer's question as to whether there is a present shortage of doctors, you stated the answer to the question involved a judgment factor. I should like to ask, Do you expect that there will be in the future on account of population growth an increased demand for health services and, therefore, a shortage of doctors?

Dr. TERRY. Yes, sir; I think there most certainly will be.

The CHAIRMAN. How long does it take to establish a medical school?

Dr. TERRY. In general, from the planning stage, after the decision to move ahead, in other words, the beginning of the active planning stage, construction, and placing in operation, will require somewhere between 3 and 5 years. Say, if one takes 4 years, as the average, that would still mean under those particular circumstances that a school would not graduate a person for 8 years from the time the active planning stage began. This is one of the reasons why we feel it is so urgent that we move now, because we are talking about, as the Secretary has emphasized, the greatly increased needs that will exist a few years from now and we have to move today in order to meet those needs then.

The CHAIRMAN. In terms of years would generally the same time be required on major expansion?

Dr. TERRY. No, sir; I don't think that is necessarily true. Major expansions of existing medical schools in general would not require that length of time. I should think from the active planning stage that on an average in a year and a half or 2 years the construction could be very well completed toward that major expansion.

The CHAIRMAN. But it would require then an additional 4 years at a minimum, so it would be 6?

Dr. TERRY. That is right, sir.

The CHAIRMAN. In other words, do I understand then that if this legislation is enacted it would be 6 to 8 years before we could start realizing the actual results from it?

Dr. TERRY. I think we could not possibly see any significant increase within 5 years; that is, for physicians.

The CHAIRMAN. I have had a good many of the educational institutions inquire with reference to the availability of funds for the first 2 years of basic medical training. Is there any intention of extending this program to such basic medical training? Brandeis University is an example, and I have several more, suggesting the consideration of 2-year medical schools or basic medical science training programs to provide the preclinical training.

Dr. TERRY. That is included in this proposed program. Many of our schools today could take more students in the clinical years of teaching, in the third and fourth years, if they had more students who had had the first 2 years of training.

Establishing the 2-year schools may help us to move ahead faster. In other words, our existing medical schools today can take students at the third- and fourth-year level if we can produce more out of our first 2 years of basic medical training.

The CHAIRMAN. And that is authorized in this proposal?

Dr. TERRY. Yes, sir; 2-year schools are specifically included.

The CHAIRMAN. I suppose, then; they could be called medical junior colleges, as has been suggested.

Dr. TERRY. I am afraid that they would resent being called junior, even though they had only 2 years, Mr. Harris. It is sort of like someone might say the patient has minor surgery, but to the patent any surgery he has is major.

The CHAIRMAN. With reference to the renovation, does that mean to tear down an old building and build a new one?

Dr. TERRY. If the old building is in such condition that there is serious jeopardy to the continuation of this school because of this physical facility; yes, sir. In many instances it will also include renovation of an existing facility which would make a more effective educational process possible.

The CHAIRMAN. Then some of the buildings could be improved and that would be included in this proposal?

Dr. TERRY. Oh, yes; many of them could be, sir.

The CHAIRMAN. Suppose there are certain facilities that would be desired in connection with present institutions that would not require a major renovation or expansion. Would that be permitted?

Dr. TERRY. That would be permitted if it improved the educational process or the number of students that that school could take. Now, obviously, Mr. Harris, we are going to have more applications for money for construction grants than we are going to have money, even

if the committee gives us all we have asked for. Only $15 million annually would be authorized for renovation construction that would not expand enrollments.

The CHAIRMAN. I don't think there is any doubt about that.

Dr. TERRY. So that I think that obviously priority will be given by our review bodies to those instances where, for instance, in renovation or replacement the physical facilities are such that the school is really in danger.

The CHAIRMAN. As an example, suppose you have a school that in order to be more proficient, for example, needs air conditioning. We have many of these facilities that are several years old, and suppose it could be more efficient, for example, if it were air conditioned. Would that be permitted under the legislation here?

Dr. TERRY. Possibly so, if it improved the educational process or if it allowed that school to take more students, but the authorization for modernization construction is a very limited one.

The CHAIRMAN. I believe you are going to include in the information that you are to submit, as I requested at the outset of the session this morning, information as to how this scholarship program works?

Dr. TERRY. Yes, sir.

The CHAIRMAN. Mr. Secretary, and your associates with you here today, let me thank you on behalf of the committee for your appearance here and the excellent presentation that you have made in advocating this program, and not only in your presentation, but in your responses to questions from members of the committee who have searched for information with reference to this program. I would like to join the other members of the committee in commending you for it.

Secretary RIBICOFF. Thank you very much, Mr. Chairman.

The CHAIRMAN. We appreciate the 2 days that you have given us. We know you have a very busy schedule, but should something else develop that would require your presence, we would notify you.

Secretary RIBICOFF. I will be available on your call, Mr. Chairman.

The CHAIRMAN. Thank you very much.

(Additional information requested follows:)

Geographical source of entering students in public and private medical schools and basic medical service schools in the United States, 1960–61

Medical school	Total freshmen	Home State	Out of State
Total	8,298	5,530	2,768
Public schools	4,104	3,591	513
Medical College of Alabama	80	75	5
University of Arkansas	92	92	0
University of California, Los Angeles	71	65	6
University of California, San Francisco	103	96	7
University of Colorado	85	55	30
University of Florida	53	46	7
Medical College of Georgia	104	103	1
University of Illinois	200	198	2
Indiana University	194	179	15
State University of Iowa	124	108	16
University of Kansas	105	95	10
University of Kentucky	40	34	6
Louisiana State University	142	141	1
University of Maryland	98	79	19
University of Michigan	200	166	34
Wayne State University	125	117	8
University of Minnesota	141	127	14
University of Mississippi	81	77	4

Geographical source of entering students in public and private medical schools and basic medical service schools in the United States, 1960–61—Continued

Medical school	Total freshmen	Home State	Out of State
Public schools—Continued			
University of Missouri	81	80	1
University of Nebraska	90	86	4
State University of New York, New York City	156	145	11
State University of New York, Syracuse	84	77	7
University of North Carolina	69	60	9
University of Cincinnati	98	62	36
Ohio State University	151	149	2
University of Oklahoma	104	100	4
University of Oregon	80	57	23
University of Puerto Rico	55	52	3
Medical College of South Carolina	80	80	0
University of Tennessee	204	144	60
University of Texas, Southwestern	100	93	7
University of Texas, Medical Branch	144	140	4
University of Utah	55	41	14
University of Vermont	51	6	45
University of Virginia	77	51	26
Medical College of Virginia	85	62	23
University of Washington	77	66	11
University of Wisconsin	92	82	10
University of North Dakota	42	30	12
State University of South Dakota	45	30	15
West Virginia University	46	45	1
Private schools	4,194	1,939	2,255
Loma Linda University	103	37	66
University of Southern California	69	63	6
Stanford University	60	30	30
Yale University	80	10	70
Georgetown University	117	12	105
George Washington University	102	14	88
Howard University	106	18	88
University of Miami	82	76	6
Emory University	75	42	33
Chicago Medical School	76	13	63
Northwestern University	131	53	78
Stritch School of Medicine	88	41	47
University of Chicago	73	24	49
University of Louisville	95	83	12
Tulane University	133	28	105
Johns Hopkins University	78	8	70
Boston University	74	37	37
Harvard Medical School	117	19	98
Tufts University	115	62	53
St. Louis University	122	19	103
Washington University, St. Louis	88	22	66
Creighton University	77	12	65
Seton Hall College of Medicine & Dentistry	80	51	29
Albany Medical College	64	40	24
University of Buffalo	88	77	11
Albert Einstein College of Medicine	98	73	25
Columbia University	120	52	68
Cornell University	85	28	57
New York Medical College	128	82	46
New York University	130	105	25
University of Rochester	72	32	40
Duke University	75	23	52
Bowman Gray School of Medicine	55	20	35
Western Reserve University	87	63	24
Hahnemann Medical College	111	83	28
Jefferson Medical College	176	117	59
Temple University	137	107	30
University of Pennsylvania	127	69	58
Woman's Medical College	63	18	45
University of Pittsburgh	101	78	23
Meharry Medical College	71	6	65
Vanderbilt University	54	14	40
Baylor University	85	35	50
Marquette University	102	43	59
Dartmouth Medical School	24	0	24

Source: Wiggins, Walter S. et al., "Medical Education in the United States." Journal of the American Medical Association 178: 579–652, Nov. 11, 1961.

Percent of graduates of each medical college in private practice[1] in the same State as the medical college attended—Selected classes, 1930–50

Medical college	Year of graduation				
	1930	1935	1940	1945	1950
Total	56	51	46	46	46
Public schools	56	55	53	52	55
Medical College of Alabama	------	------	------	------	63
University of Arkansas	50	33	47	67	49
University of California, San Francisco	94	86	97	86	80
University of Colorado	50	44	50	61	51
Medical College of Georgia	56	63	69	60	66
University of Illinois	71	46	51	42	44
Indiana University	80	83	68	57	52
State University of Iowa	57	53	63	52	46
University of Kansas	29	53	44	44	46
Louisiana State University	------	35	46	49	54
University of Maryland	26	37	37	32	39
University of Michigan	54	43	50	54	62
Wayne State University	94	77	79	61	79
University of Minnesota	65	55	45	44	71
University of Nebraska	51	18	41	33	35
State University of New York, New York City	90	67	45	51	66
State University of New York, Syracuse	81	76	69	65	67
University of Cincinnati	67	54	51	45	62
Ohio State University	92	84	73	68	70
University of Oklahoma	55	53	68	55	62
University of Oregon	46	79	39	44	40
Medical College of South Carolina	81	67	61	72	69
University of Tennessee	43	53	43	46	48
University of Texas, Southwestern	------	------	------	68	59
University of Texas, Medical Branch	85	95	91	88	89
University of Utah	------	------	------	70	19
University of Vermont	37	29	33	36	10
Medical College of Virginia	12	38	31	40	48
University of Virginia	17	50	46	32	54
University of Washington	------	------	------	------	61
University of Wisconsin	80	52	42	57	45
Private schools	55	49	42	42	38
Loma Linda University	50	64	51	62	46
University of Southern California	------	94	100	91	86
Stanford University	91	97	97	89	91
Yale University	35	25	32	17	18
Georgetown University	10	10	20	16	3
George Washington University	12	30	32	23	11
Howard University	------	5	24	5	4
Emory University	38	47	47	44	45
Chicago Medical School	------	85	78	65	36
Northwestern University	30	29	26	21	27
Stritch School of Medicine	58	61	37	47	48
University of Chicago	------	9	29	13	8
University of Louisville	41	44	31	38	53
Tulane University	33	22	25	20	26
Johns Hopkins University	12	15	14	6	22
Boston University	47	46	38	36	56
Harvard Medical School	50	28	27	25	33
Tufts University	58	58	50	59	42
St. Louis University	33	28	14	25	32
Washington University, St. Louis	38	43	33	38	31
Creighton University	18	25	8	12	13
Albany Medical College	79	90	63	72	50
University of Buffalo	94	86	79	74	64
Columbia University	73	49	43	33	39
Cornell University	67	46	49	24	37
New York Medical College	94	70	39	62	44
New York University	80	71	51	69	39
University of Rochester	50	56	43	46	32
Bowman Gray School of Medicine	------	------	------	75	44
Duke University	------	20	32	16	28
Western Reserve University	73	65	68	60	52
Hahnemann Medical College	55	55	44	45	37
Jefferson Medical College	56	54	42	33	35
University of Pennsylvania	44	57	46	46	30
University of Pittsburgh	94	83	84	78	75
Temple University	74	64	46	50	34
Woman's Medical College	57	31	44	22	27
Meharry Medical College	9	0	0	0	3
Vanderbilt University	22	27	32	20	50
Baylor University	84	80	78	79	78
Marquette University	88	47	36	46	32

[1] Class of 1930 surveyed in 1936, 1935 and 1940 in 1950, 1945 in 1954, and 1950 in 1959.

Source: Weiskotten, H. G. and Altenderfer, M. E., "Trends in Medical Practice." Journal of Medical Education 31: 1–92, July (pt. II), 1956. Weiskotten, H. G. et al, "Trends in Medical Practice." Journal of Medical Education. 35:1071–1121, December 1960.

Mr. RHODES. Mr. Chairman, before we adjourn I wonder if it would be possible to have Dr. Gerald D. Timmons, who is here from Philadelphia, file a statement since he cannot appear tomorrow. He is associated with Temple University, and is head of the American Dental Association.

The CHAIRMAN. Yes. The doctor may file a statement, but we are going to come back at 2 o'clock this afternoon.

The committee will adjourn until 2 o'clock this afternoon.

(Whereupon, at 12:05 p.m., Wednesday, January 24, 1962, the hearing in the above-entitled matter adjourned, to reconvene at 2 p.m., the same day.)

AFTERNOON SESSION

(The committee resumed at 2 p.m., pursuant to the recess.)

The CHAIRMAN. The committee will come to order.

This afternoon our first witness will be Dr. Donald G. Anderson, president of the Association of American Medical Colleges and dean of the University of Rochester School of Medicine and Dentistry.

Dr. Anderson, I am glad to extend to you in behalf of the committee a welcome to this committee.

We shall be glad to have your testimony.

In the meantime, I believe you have with you here and supporting you a number of deans of various schools.

I think it would be helpful to the committee, and certainly we will be glad to have it for the record if you will present them and identify them for the record.

STATEMENT OF DR. DONALD G. ANDERSON, PRESIDENT, ASSOCIATION OF AMERICAN MEDICAL COLLEGES, DEAN, UNIVERSITY OF ROCHESTER SCHOOL OF MEDICINE AND DENTISTRY

Dr. ANDERSON. Thank you very much, Mr. Chairman. I appreciate greatly this opportunity to appear in support of H.R. 4999.

I would like at this time to introduce the representatives of the medical schools of this country who are here today.

I am accompanied by Dr. Robert Berson, the dean of the Medical College of the University of Alabama and vice president of the University for Health Affairs, and by Dr. Thomas Turner, the dean of the Johns Hopkins University School of Medicine. Each of these gentlemen will also present testimony for our association in support of H.R. 4999.

Mr. Chairman, may they join me at the table?

The CHAIRMAN. We shall be very glad to have both Dr. Berson and Dr. Turner join you for this presentation.

Dr. ANDERSON. I would like to ask the following deans to stand as I name them:

Dr. Edward Dempsey, dean of the Washington University School of Medicine in St. Louis.

Dr. John Hirschboeck, dean of the Marquette University School of Medicine in Milwaukee.

Dr. Stafford L. Warren, dean of the University of California School of Medicine at Los Angeles.

Dr. G. O. Broun, dean of the St. Louis University School of Medicine.

Dr. Samuel Trufant, associate dean of the University of Cincinnati, College of Medicine.

Dr. James McCormack, dean of the Seton Hall College of Medicine, Jersey City, N.J.

Dr. John E. Deitrick, dean of the Cornell University Medical College.

Dr. George Wolf, vice president for medical and dental affairs at Tufts University, Boston.

Dr. Robert A. Moore, president of the medical center and dean of the College of Medicine of the Downstate Medical Center, Brooklyn, N.Y.

Dr. John Sheinin, president of the Chicago Medical School.

Dr. Arthur P. Richardson, dean of the Emory University School of Medicine in Atlanta.

Mr. Harold Wiggers, dean of the Albany Medical College of Union University in Albany, N.Y.

Dr. Joseph Hinsey, director of the New York Hospital-Cornell Medical Center.

Dr. John Parks, dean of the George Washington University School of Medicine.

Dr. Vernon Wilson, dean of the University of Missouri College of Medicine.

Dr. Kenneth Penrod, vice president for medical affairs of the University of West Virginia.

Dr. Gordon Scott, dean of the Wayne State University College of Medicine.

Dr. John Sheehan, dean, Stritch School of Medicine, Loyola University, Chicago.

Dr. Houston Merritt, dean of the College of Physicians & Surgeons of Columbia University of New York.

Dr. Stanley Bennett, dean of the University of Chicago School of Medicine.

Dr. Richard Young, dean, Northwestern University Medical School, Chicago.

Dr. William Stone, dean of the University of Maryland School of Medicine.

Dr. Mark Everett, dean of the University of Oklahoma School of Medicine.

Also we have representatives of four universities who are giving serious consideration to the establishment of new schools, Dr. Louis Levin, dean of the School of Science, Brandeis University in Waltham, Mass.

Dr. L. D. Haskew, vice chancellor of the University of Texas, which already has two schools and is planning a third.

Dr. Gliddon Brooks, director of the Institute of Health Sciences of Brown University.

Dr. David Denyer, assistant to the president of Rutgers University.

We appreciate the opportunity to introduce these gentlemen, Mr. Chairman. I am sure that they will be happy to answer questions that the committee may wish to direct to them after our testimony.

The CHAIRMAN. I assume they are merely here to be present for this presentation and do not expect to testify, do they?

Dr. ANDERSON. I believe, Mr. Chairman, a few of them are scheduled to testify on other days on behalf of other organizations or they have made arrangements through other auspices to appear before your committee.

The CHAIRMAN. Gentlemen, we are glad to have all of you here. You are welcome. We are glad to know of your interest in the legislation.

Dr. ANDERSON. Mr. Chairman, as I have indicated, we are very grateful for the opportunity to appear before this committee and its distinguished chairman who together have done so much over the years to further the cause of health and medical science.

Our association is keenly aware and believes that all citizens should be grateful for the close and intelligent attention you have given to the health needs of the Nation. Your leadership in the enactment of the legislation providing for institutional research grants and the Community Facilities and Services Act of 1961 will foster great and tangible benefits comparable to the benefits that have resulted from other measures stemming from this committee.

Mr. Chairman, I should like to acknowledge the forthright statement with which you opened these hearings yesterday in which you stated the burden is on the proponents that such a program of Federal aid is absolutely indispensable if the health needs of the American people are to be met.

My colleagues and I accept the responsibility which you have placed on us.

May I comment that we come here not just as deans of medical schools but in effect as the trustees of one of our Nation's major resources, a resource on which the success of our country's efforts in medical care and medical research is wholly dependent.

We urge enactment of this legislation not in the self-interest of the medical schools but to make it possible for the medical schools to do the job that is required of them by the people of this country.

I hope that my colleagues and I shall be successful in demonstrating to you and the committee that enactment at this time of H.R. 4999 is essential.

The argument in favor of this legislation is very straightforward. A number of authoritative studies, none of which has been seriously questioned, have established that to avoid a serious shortage of physicians in the 1970's, the number of medical students in the United States must be increased in the next 8 to 9 years by approximately 50 percent.

The first medical school in the United States was established by the University of Pennsylvania in 1765 and admitted a class of fewer than 20 students. In the intervening 197 years, our facilities for medical education have gradually been expanded through the efforts of private philanthropy and local tax funds to the point where today approximately 8,200 new medical students can be accepted for training each year in our 86 medical schools.

Now, because of the continuing growth of our population and the increasing demand by all segments of society for more service from physicians, we must, just to maintain the present physician population ratio, just to maintain this ratio we must in the short span of the next 8 to 9 years create facilities for an additional 4,000 students, or, to put

it another way, we must in a decade or less increase by 50 percent facilities that required nearly 200 years of private and local effort to establish.

It is the considered judgment of our association, a judgment that is unanimously supported and agreed to by all of the existing 86 medical schools of the United States, that expansion of this magnitude can be accomplished in the time required only if Federal funds on a matching basis are available for the construction of new schools and for the expansion and renovation of the educational and research facilities of existing schools.

It is our sober judgment that while private and local tax moneys should participate significantly in the expansion that is needed, funds from these sources will not be sufficient to accomplish the task that confronts us.

It is our further opinion that, to attract sufficient students to provide an entering class of 12,000 qualified medical students by 1970 or 1971, more adequately scholarship funds will be needed than can be raised from local or private sources.

Finally, it is clear that the high cost of conducting a medical school today will make existing schools reluctant to expand and will deter those universities that might be capable academically of establishing new medical schools, from assuming this additional responsibility unless they can have some assurance of assistance in meeting the substantial increase in operating expenses that they will incur.

I should point out that the conclusions that private and local funds will have to be supplemented by Federal funds to permit the necessary development of medical education in this country was not reached lightly. But even those of us who most regret the need to seek Federal assistance could come to no other conclusion but that such assistance is necessary as we examine soberly and realistically the costs of building and operating modern medical schools.

Mr. Chairman and members of the committee, I should like to stress that while we are discussing the Nation's need for physicians in the period of 1970 to 1975, the matter before us today is an urgent one as of this moment.

As you have heard, the output of physicians cannot be increased overnight or even in a year or two or three of four. Experience proves that under the most favorable circumstances, it takes from 2 to 4 years to plan and construct new facilities, to raise the necessary funds, to recruit the faculty and administrative personnel needed, and to plan a curriculum; all tasks that must be done before the first class of students can be admitted.

Under more normal circumstances, these steps may require 6 to 8 years.

Another 4 years must pass before this first class graduates. These young physicians will spend still another 2 to 5 years in hospital training as interns and residents before they are available to serve the people of our country.

In other words, Mr. Chairman, the adequacy of our country's supply of physicians from 1970 on depends on the actions we take now. If we could push the clock ahead 10 years, I believe our task to demonstrate the need for this legislation would be much easier.

The shortage of doctors would be clearly apparent and the protests of those affected would be far more eloquent than any words we can offer today.

However, if we wait until the crisis is upon us, our action will be too late to be effective.

Thus we plead most earnestly that Congress be farsighted and take action now.

Mr. Chairman, with your permission, I should like to confine the balance of my testimony to the need for Federal grants on a matching basis to assist in the construction of educational facilities.

Dr. Berson will present testimony on the need for funds for scholarships and general operating expenses, and Dr. Turner on the need for continuing the Health Research Facilities Act.

The medical schools are fully agreed that first priority in our national effort to provide an adequate number of physicians should be the provision of Federal funds on a matching basis for the construction of medical school teaching facilities. We urgently need classrooms, student laboratories, libraries, teaching hospitals, and clinics, and the essential supporting service facilities.

Lack of physical space in which to accommodate more students is without question the most serious single bottleneck to increasing the output of physicians.

Funds to assist with the construction of educational facilities are needed for four principal purposes:

(1) To enable existing medical schools to expand their classes.

(2) To enable universities to establish new medical schools.

(3) To enable existing medical schools to modernize and at times even replace antiquated and inadequate classrooms, laboratory, and library facilities.

(4) To enable existing medical schools to establish, modernize, or expand their teaching hospitals and clinics.

I should like to comment briefly on each of these needs.

A study by the Association of American Medical Colleges and the American Medical Association has shown that existing medical schools can expand their first year classes by approximately 1,700 places if funds can be secured for the construction of teaching facilities and there is no question at all, Mr. Chairman, that if funds are available and this construction can be provided these schools will create these additional places. Because these existing schools are already in operation and can get new construction underway with a minimum of delay, their expansion represents the most effective way to increase our medical manpower within the next few years.

However, if we are to meet our goal, and it is a minimum goal in terms of the needs of the country, if we are to meet our goal of 4,000 new places in the medical school entering classes by the early 1970's, in addition to expanding existing schools, a significant number of new medical schools must be established. In fact, we must build sufficient schools to admit approximately 2,300 students annually, 2,300 additional students.

We should, therefore, think in terms of the establishment of 23 new medical schools. Various figures have been suggested ranging between 20 and 24, but I have taken the figure 23, each admitting a class of 100 students.

As we have already brought out, even if the funds were in hand today, it would be 1968 to 1970 or even later before these schools would be graduating physicians.

A number of our existing schools are in danger of having to reduce the size of their classes because their facilities are antiquated and not capable of being modernized. Other schools are operating, we know, less effectively than they should because their laboratories are improperly constructed to accommodate modern teaching equipment. Assisting these schools to replace or modernize their facilities should, we believe, clearly be an important part of our national program.

Finally, construction funds for clinical teaching facilities are urgently needed by many of our schools.

In a modern medical school, the hospital, and the outpatient clinic are the classrooms and the laboratories for the third and fourth year students. Today, many of our schools have inadequate clinical facilities in which to teach even their present student bodies.

These schools, we feel, need assistance to modernize, expand, or in certain cases even to create proper teaching hospital facilities.

Now what are the estimated costs of expanding our enrollment of medical students to meet the need that has been established?

A survey last summer of the cost to expand and modernize our existing schools of medicine revealed the need for $518 million, $78 million of which would be for modernization and $440 million for expansion.

With respect to the cost of new schools, the cost of construction varies depending on the preexisting related facilities at the university, the breadth of the new program for education in the health professions, and the availability in the same community of a suitable hospital and clinic teaching facilities.

Recognizing these variations, a reasonable estimate of the cost of constructing a medical school with its teaching hospital may be said to range from $25 to $35 million and thus 23 new schools would represent a total cost of between $475 to $805 million.

We think it is unrealistic to hope or to expect that our universities, with their limited resources and with all of the other demands that they must meet—it is unrealistic to hope or to expect that they can provide or raise from local and private sources during the next 8 to 9 years the approximately $1 billion to $1.3 billion of capital funds needed for the expansion of our facilities for medical education.

We firmly believe, however, that with the stimulus and with the direct assistance that Federal funds on a liberal matching basis would provide, we can achieve or come close to achieving the expansion that is needed.

Therefore, the Association of American Medical Colleges has formally recommended by unanimous vote, and the association, I should say, includes in its membership all the medical schools in the United States, this association has formally recommended by unanimous vote that Federal matching funds for teaching facilities be provided under conditions that will—

1. be sufficient in amount to encourage action that is both prompt and adequate;
2. encourage the modernization and expansion of existing schools;

3. encourage academic institutions not presently involved in medical schools to plan and develop new schools;

4. encourage an institution's continuing effectiveness in maintaining diversity in its sources of financial support;

5. recognize the essential unity of medical education and research by identifying the support of one with the other; and

6. recognize the indispensability of the library, the university hospital, and clinic to medical research and education.

We believe that H.R. 4999, although it provides somewhat less than the amount of Federal assistance that we estimate is required, does incorporate these basic conditions and we believe that it is soundly conceived to provide a basic program of Federal assistance that will encourage and ultimately make possible the expansion of our facilities for medical education that is needed if the Nation is to avert a serious shortage of physicans.

We, therefore, express the earnest hope that this bill will be enacted into law at an early date.

Mr. Chairman, I thank you and the members of the committee again for this opportunity to speak in support of this legislation which is so essential to the Nation's welfare.

(The prepared statement of Dr. Anderson follows:)

STATEMENT OF DR. DONALD G. ANDERSON

Mr. Chairman and members of the committee, I am Dr. Donald G. Anderson, dean of the University of Rochester School of Medicine and Dentistry. I am appearing as a representative of the Association of American Medical Colleges of which I have the honor to be president.

I am grateful for the opportunity to appear before this committee and its distinguished chairman, who together have done so much over the years to further the cause of health and medical sciences. The Association of American Medical Colleges is keenly aware of and all citizens should be grateful to you for the close and intelligent attention you have given to the health needs of the Nation. Your leadership in the enactment of the legislation providing for institutional research grants (Public Law 87–798) and the Community Facilities and Services Act of 1961 (Public Law 87–395) will foster great and tangible benefits such as have already resulted from the Health Research Facilities Act and many others.

I am accompanied by Dr. Robert C. Berson, dean of the Medical College of Alabama and vice president of the University for Health Affairs, and Dr. Thomas B. Turner, dean of the Johns Hopkins University School of Medicine. Each of these gentlemen will also present testimony for the Association of American Medical Colleges in support of H.R. 4999.

On behalf of the association, I should like to express our appreciation for this opportunity to appear before you today to endorse the provisions of H.R. 4999 and to urge that this bill receive the favorable consideration of this committee and that it be enacted into law at this time.

The argument in favor of this legislation is very straightforward. A number of authoritative studies, none of which has been seriously challenged, have established that to avoid a serious shortage of physicians in the 1970's, the number of medical students in the United States must be increased in the next 8 to 9 years by approximatley 50 percent.

The first medical school in the United States was established by the University of Pennsylvania in 1765 and admitted a class of fewer than 20 students. In the intervening 197 years our facilities for medical education have gradually been expanded through the efforts of private philanthropy and local tax funds to the point where today approximately 8,000 new medical students can be accepted for training each year in our 86 medical schools. Now, because of the continuing growth of our population and the increasing demand by all segments of society for more service from physicians, we must in the short span of the next 8 to 9 years create facilities for an additional 4,000 students, or put another way, we must in a decade or less increase by 50 percent facilities that required nearly 200 years of private and local effort to establish.

It is the considered judgment of the Association of American Medical Colleges, a judgment that is unanimously supported and agreed to by all the existing 86 medical schools in the United States, that an expansion of this magnitude can be accomplished in the time required only of Federal funds on a matching basis are available for the construction of new schools and for the expansion and renovation of the educational and research facilities of existing schools. It is our sober judgment that while private and local tax moneys should participate significantly in the expansion that is needed, funds from these sources will not be available in sufficient amounts to accomplish the task that confronts us.

It is our further opinion that to attract sufficient students to provide an entering class of 12,000 qualified medical students by 1970 or 1971, more adequate scholarship funds will be needed than can be raised from local or private sources.

Finally, it is clear that the high cost of conducting a medical school today will make existing schools reluctant to expand and will deter those universities that might be capable of establishing new medical schools from assuming this additional responsibility unless they can have some assurance of assistance in meeting the substantial increase in operating expenses they will incur.

I should point out that the conclusion that private and local funds will have to be supplemented by Federal funds to permit the necessary development of medical education in this country was not reached lightly. But even those of us who must regret the need to seek Federal assistance could come to no other conclusion as we examined soberly and realistically the costs of building and operating modern medical schools.

Mr. Chairman and members of the committee, I should like to stress that while we are discussing forecasts of the Nation's need for physicians in the period 1970 to 1975, the matter before us today is an urgent one as of this moment. The output of physicians cannot be increased overnight or even in a year or two, or three or four. Experience proves that in the most favorable circumstances, it takes from 2 to 4 years to plan and construct new facilities, to raise the necessary funds, to recruit administrative and faculty personnel, and to plan a curriculum—all tasks that must be done before the first class of students can be admitted. Under more normal circumstances, these steps may require 6 to 8 years.

Another 4 years must pass before this first class graduates. And these young physicians will spend still another 2 to 5 years in hospital training as interns and residents before they are available to serve the people of our country.

In other words, Mr. Chairman, the adequacy of our country's supply of physicians from 1970 on depends on the actions we take now. As you can deduce, from the information I have presented, we are already behind schedule if we are to meet the demonstrable needs of the Nation in the early 1970's.

Thus we plead most earnestly that the Congress be farsighted and take action now to avoid a crisis that will most surely occur if action is not taken.

Parenthetically, I must observe that should the international situation require the mobilization of any substantial number of physicians in the next several years, a serious shortage of physicians for our civilian population will most certainly occur. While it is too late to prevent such a crisis from occurring in the next few years, the existence of a sound, long-range, program for the expansion of our facilities for medical education would reduce the hysteria that would accompany such a crisis and would lessen the need for the adoption of unsound and expensive crash programs.

Mr. Chairman, with your permission, I should like to confine the balance of my testimony to the need for Federal grants on a matching basis to assist in the construction of educational facilities.

Dr. Berson will present testimony on the need for funds for scholarships and general operating expenses, and Dr. Turner on the need for continuing the program of Federal matching grants for the construction of research facilities.

The medical schools are fully agreed that first priority in our national effort to provide an adequate number of physicians should be the provision of Federal funds on a matching basis for construction of medical school teaching facilities. We urgently need classrooms, student laboratories, libraries, teaching hospitals and clinics, and essential supporting service facilities. Lack of the physical space in which to accommodate more students is the most serious single bottleneck to increasing the output of physicians.

Funds to assist with the construction of educational facilities are needed for four principle purposes:

1. To enable existing medical schools to expand their classes.
2. To enable universities to establish new medical schools.

3. To enable existing medical schools to modernize and replace antiquated and inadequate classrooms, laboratory, and library facilities.

4. To enable existing medical schools to establish, modernize, or expand their teaching hospitals and clinics.

I wish to comment briefly on each of these needs.

A study by the Association of American Medical Colleges and the American Medical Association has shown that existing medical schools can expand their first-year classes by approximately 1,700 places if funds can be secured for construction of teaching facilities. Because these schools are already in operation and can get new construction underway with a minimum of delay, their expansion represents the most effective way to increase our medical manpower within the next few years.

However, if we are to meet our goal of 4,000 new places in medical school entering classes, in addition to the expansion of existing schools, a significant number of new medical schools must be established. In fact, we must build sufficient new schools to admit 2,300 (the difference between 4,000 and 1,700) additional first-year medical students annually. We should, therefore, think in terms of the establishment of 23 new medical schools, each admitting a class of 100 students. As already brought out, even if the funds were in hand today, it would be 1968 to 1970 or later before these schools would be graduating physicians.

A number of our existing schools are in danger of having to reduce the size of their classes, because their facilities are antiquated and not capable of being modernized. Other schools are operating less effectively than they should, because their laboratories are improperly constructed to accommodate modern teaching equipment. Assisting these schools to replace or modernize their facilities should, therefore, clearly be an important part of our national program.

Finally, construction funds for clinical teaching facilities are urgently needed by many of our schools. In a modern medical school the hospital and clinic are the classrooms and laboratories for the third- and fourth-year student. Today many schools have inadequate clinical facilities in which to teach their present students. These schools need assistance to modernize, expand, or even create proper teaching hospital facilities.

What are the estimated capital costs of expanding our enrollment of medical students to meet the indicated need for physicians? A survey last summer of the cost to expand and modernize our existing schools of medicine revealed a need for $518 million—$78 million for modernization and $440 million for expansion.

The cost of constructing new medical schools varies depending on preexisting related facilities at the university, the breadth of the new program for education in the health professions, and the availability of hospital and clinic teaching facilities. Recognizing these variations, a reasonable estimate of the cost of constructing a medical school with its teaching hospital may be said to range from $25 to $35 million. Twenty-three new schools would thus represent a total cost of $575 to $805 million.

It is unrealistic to hope or to expect that our universities with their limited resources and with all the other demands they must meet can provide or raise from local and private sources during the next 8 to 9 years the approximately $1 billion to $1.3 billion of capital funds needed for the expansion of our facilities for medical education. We firmly believe, however, that with the stimulus and the direct assistance that Federal funds on a liberal matching basis would provide, we can achieve or come close to achieving the expansion that is needed.

Therefore, the Association of American Medical Colleges has formally recommended by unanimous vote that Federal matching funds for teaching facilities be provided under conditions that will—

1. Be sufficient in amount to encourage action that is both prompt and adequate.

2. Encourage the modernization and expansion of existing schools.

3. Encourage academic institutions not presently involved in medical education to plan and develop new schools.

4. Encourage an institution's continuing effectiveness in maintaining diversity in its sources of financial support.

5. Recognize the essential unity of medical education and research by identifying the support of one with the other.

6. Recognize the indispensability of the library, the university hospital, and clinic to medical research and education.

We believe that H.R. 4999, although it provides somewhat less than the amount of Federal assistance that we estimate is required, does incorporate these basic conditions, and we believe that it is soundly conceived to provide a basic program of Federal assistance that will encourage and ultimately make possible the expansion of our facilities for medical education that is needed if the Nation is to avert a serious shortage of physicians.

We, therefore, express the earnest hope that this bill will be enacted into law at an early date.

Mr. Chairman, I thank you and the members of the committee again for this opportunity to speak in support of this legislation which is so essential to the Nation's welfare.

Dr. ANDERSON. I would appreciate it if Dr. Berson and Dr. Turner could now be heard.

The CHAIRMAN. Mr. Roberts?

Mr. ROBERTS. Mr. Chairman, I do not know who will be the next witness but you mentioned Dr. Berson.

I would like to say at this point that I am very happy that Dr. Berson could be here to appear before our committee.

Recently a subcommittee of this committee visited Birmingham, the Subcommittee on Health and Safety, and Dr. Berson was our host. He made the arrangements for the committee to meet out at the University of Alabama Hospital where we had a very fine hearing.

Of course, in Alabama, as the chairman knows, coming from Arkansas, we are not only famous for our football but we also are famous for our university medical center.

Dr. Berson has had an outstanding part in establishing our center and in doing the wonderful work especially in the cardiovascular field in our university medical center.

It is especially pleasing to me to have this opportunity to say a few words for Dr. Berson.

Dr. BERSON. Thank you, sir.

The CHAIRMAN. Dr. Berson, we are very glad to have you present here testimony on one phase of this subject. I do not know, however, to what extent Arkansas might have any claim at all with reference to the medical program in Alabama. We do have at present at the University of Arkansas some individuals who got a great deal of experience over your way. However, since some of the best football players from Arkansas went to Alabama and since our coach is at Alabama now, I can understand your success in that field.

Dr. BERSON. Thank you, Mr. Chairman.

The CHAIRMAN. We are very glad to have you and shall be glad to hear your statement.

STATEMENT OF DR. ROBERT C. BERSON, DEAN OF THE MEDICAL COLLEGE, THE UNIVERSITY OF ALABAMA, AND REPRESENTATIVE OF THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Dr. BERSON. Thank you, Mr. Chairman. I appreciate Mr. Roberts' kind words. I have presented to your secretary a prepared statement. After listening to the testimony of the last 2 days, with your permission I would like to simply follow this statement in a general way rather than reading it in its entirety.

The CHAIRMAN. You may have your entire statement included in the record and summarize it as you desire, Doctor.

Dr. BERSON. I would appreciate that opportunity, sir.

(The statement referred to follows:)

STATEMENT OF DR. ROBERT C. BERSON

Mr. Chairman and members of the committee, I am Dr. Robert C. Berson, dean of the medical college and vice president for health affairs of the University of Alabama. I am appearing as a representative of the Association of American Medical Colleges on whose executive council I have the honor of serving.

I want to endorse the provisions of H.R. 4999 and to urge that it receive the favorable consideration of the committee and be promptly enacted into law.

First, I would like to underscore Dr. Anderson's fine statement concerning the impending serious shortage of physicians. In doing so I would emphasize the fact that the 50 percent expansion of enrollment to which he—and other authorities—have referred will only provide enough physicians to maintain the present physician to population ratio. In my opinion this is truly a minimum objective. If the increase in the supply of medical manpower is no greater than 50 percent by 1975, not only would a substantial increase in the military needs for physicians create a marked shortage in the civilian supply, as Dr. Anderson has indicated, but also the lag in applying newly acquired medical knowledge from our expanding research effort to the needs of patients would surely increase. This committee has already taken an important step toward improving techniques and facilities for applying this new medical knowledge to the needs of patients through its support of the Community Facilities and Services Act of 1961. Additional medical manpower, properly oriented and educated, as well as facilities and techniques will be needed to accomplish this important end. And there is growing evidence that the medical knowledge and skill available in this country already could be enormously helpful to less well developed countries if adequate medical manpower and appropriate cooperative arrangements were available.

I agree completely with Dr. Anderson's statement that the first consideration be given to a program of Federal matching grants for the construction of new and the modernization of old facilities to accommodate the necessary increase in the number of medical students and graduates.

The institutional members of the Association of American Medical Colleges are also in unanimous agreement that next must come steps to insure that there will be a sufficient number of well qualified students to fill these expanded classes and become the additional graduates needed. This need is almost as urgent as the need for facilities.

It is no secret that while the number of graduates from our liberal arts colleges has been increasing in the past several years, there has been a steady decrease in the number of students applying for admission to medical schools. Thus, in 1956–57, there were 15,900 applicants to medical schools while in 1960–61, the number had dropped by 1,500 to 14,397.

Although 14,400 applicants for the 8,298 places in the entering medical school classes might appear to provide a comfortable margin, this is not the case. As the admissions committee of any medical school can report, a substantial number of those who apply to medical school each year are not qualified on any count for the study of medicine and would fail within a few months if they were to be admitted. In recent years, a number of admissions committees have reported privately—no school likes to admit such a fact publicly—that they have had to scrape the bottom of the barrel of applicants to fill their classes.

All schools have agreed for several years that strenuous efforts must be made to maintain and increase both the number and quality of applicants to medical school. The medical schools individually, collectively through the Association of American Medical Colleges, and cooperatively with the American Medical Association have been exerting themselves to attract more able students to the study of medicine. These efforts have included the development by individual schools of closer relationships with high school and college students and their counsellors, the preparation and dissemination of pamphlets and brochures on medical education, the production of motion pictures on careers in medicine to be shown to high school and college students and many other efforts. In addition, the schools, their alumni associations, and the American Medical Association have made some progress in increasing the scholarship and loan funds available for medical students, and the National Defense Education Act has begun to make loan funds available to medical students in substantial amounts.

Despite all these efforts at recruitment, we have not been holding our own in the number of applicants as the figures I presented a few minutes ago reveal.

Those of us who have studied the problem closely believe that there are a number of things responsible for the decrease in the number of applicants for medical school. Although it is not the only factor, we believe that the cost o obtaining a medical education, both in itself and in comparison with the cost of graduate education in other fields is one of the most important deterrents. We believe that if we are to have a sufficient number of qualified students to fill the new schools and the expanded schools that are needed in the national interest, able young men and women with limited means must have more assurance that it will be financially possible for them to study medicine than they can now be given. Further, this assurance must be clearly visible to these young people while they are in high school and college—that is during the critical years when they make the decision of whether or not to try to study medicine.

We believe that the financial assistance needed should come partly through loans but nonrefundable grants—whether called scholarships or fellowships—are also needed to do the job which the national interest requires. And we believe that efforts to increase scholarship and loan funds from private and local sources will and should continue but that they will not suffice and that the Federal Government should supplement these efforts.

I believe just a few basic facts will make clear the importance of the position I have just stated.

At the present time only 15 percent of medical students come from the more than 40 percent of the American families who have incomes of less than $5,000 per year, while almost one-half of the students come from the less than 10 percent of families with annual incomes of more than $10,000. This is not surprising when you relate it to the facts that the 4 years of medical school require a cash outlay of more than $11,000 by the student and that this is followed by years of hospital training characterized by very low income.

The fact that loans are being used for the study of medicine is illustrated by a study of individuals graduating from medical schools in 1959. This study revealed that 20 percent of these men and women at graduation have debts of over $2,500 with an average debt for this group of $6,600. This amount of debt is a formidable deterrent to a young person who has never earned an income and whose family's income is less than $5,000.

Substantial increases in the funds available for loans have occurred in recent years. Several States have set up extensive loan funds and the American Medical Association is preparing to begin a program of underwriting loans to medical students in substantial amounts. The National Defense Education Act of 1958 provides loans to medical students. While we believe these funds should continue to increase, it is worthy of note that since the National Defense Education Act became effective, the trend of declining number of applicants for a slowly increasing number of places in the entering class has continued. From 1958–59 to 1960–61, the number of applicants declined from 15,170 to 14,397, and the number of entering students increased from 8,128 to 8,298, although 2,585 students in 78 medical schools received $1.64 million in national defense loans in 1959–60.

A matter of equal or greater significance is the fact that the substantial fellowships, scholarships, and other subsidies for graduate students in the physical, biological, and social sciences that have been provided in recent years have made it much less costly for able young men and women to pursue graduate studies in these fields rather than in medicine. A study by the national opinion research center of the University of Chicago in 1959–60 revealed that the average graduate student in the arts and sciences pays less than half as much as the average medical student for his education and yet he received four times as many dollars to meet this cost.

In recent years, particularly since the acceleration of the rocket and missile program, there has been a growing awareness of the importance of science and well-trained scholars in many fields and the usual graduate student, once he receives his Ph. D. degree, can step into a job paying at least $6,000 or $7,000 a year. The medical student, however, still has another 2 to 5 years of hospital training to go through as an intern and a resident before he begins to practice his profession or takes his place in one of the many positions of public service in which the national interest requires a well-trained physician.

It is important to recognize that the Federal Government now provides scholarships or fellowships for higher education in every field of science except the health professions. At present, each year approximately 10,000 predoctoral fellowships in the physical life and social sciences, psychology, engineering, the humanities, and education are awarded by various agencies of the Federal Government. These fellowships provide stipends of $1,800 to $2,500 with a $500 allowance for each dependent plus travel allowance and full payment of tuition fees and usually provide a "cost-of-education payment" to the institution. In addition to these Federal programs there are substantial privately financed programs for the support of graduate students.

The concept has long been accepted that the individual with a Ph. D. degree usually spend his career in public service and that it is, therefore, in the public interest for him to receive financial assistance during his graduate study. It seems important to emphasize here that an adequate supply of well-trained physicians in many positions of public service is also essential. A substantial and increasing number of physicians is needed for the Armed Forces, the U.S. Public Health Service, Veterans' Administration hospitals, local and State health departments, mental and tuberculosis hospitals, and full-time positions in research and teaching.

It seems certain that as appropriate cooperative agreements are reached and suitable techniques are available for making the medical knowledge and skill of this country useful to less well developed nations, a growing number of physicians willing to dedicate all or part of their careers to serving humanity, with relatively low personal compensation will be needed and highly useful in these programs, as have been the medical missionaries up to now.

The medical schools are not unhappy that graduate students are being given such generous support. On the contrary, we believe these programs are clearly in the national interest. However, the medical schools are gravely concerned—and the facts support this concern—that unless more substantial financial assistance is clearly and visibly available for students of medicine the number of students who choose to study medicine will be insufficient to meet the Nation's well-documented needs for physicians in the years ahead.

Serious efforts to obtain scholarship funds from local and private sources have been and will continue to be made. The deans of several institutional members of the Association of American Medical Colleges have served actively on a special committee of the American Medical Association studying the need in order to recommend action by the AMA. This committee has recommended that the AMA spearhead and initially finance a nationwide program to provide about 50 scholarships a year to students entering medical schools. One of the foundations recently made one-time grants of $15,000 to each medical school (a total of over $1 million) for nonrefundable scholarships. And nearly every medical school does what it can to obtain scholarship funds by contributions or the appropriation of State funds. But the national need is for scholarship support of approximately 25 percent of the expanded enrollment recommended by every recent study. We believe that Federal participation in the effort to provide this financial assistance is needed and well justified in the national interest. H.R. 4999 provides a long step toward meeting this need.

In addition to facilities and an adequate supply of able students, the third essential element in the program to obtain more physicians is funds for the basic cost of operating the educational program of existing and new medical schools.

Figures from many schools could be cited to show the need for increased operating funds with which to maintain their present programs and facilities. Even more convincing to me is the evidence on every hand of underpaid faculties, understaffed programs, and failure to institute new educational programs to keep pace with the march of the science and art of medicine. And there is real danger that some medical schools, largely for the lack of operating funds, will be unable to meet reasonable standards of quality and will cease to operate. Little wonder that some universities with the academic potential for developing fine new medical schools are reluctant to commit themselves to do so unless there is more assurance of assistance in meeting the cost of their operation.

The reason medical schools need increased financial support for their operations can be stated simply. Not only has the declining purchasing power of the dollar affected them as it has all other institutions but also the demand for physicians, scientists, and all the other highly trained people needed in a modern medical school is running ahead of the supply. This means that the medical

schools have had, somehow, to provide higher salaries and wages than was the case in the past, although they still lag far behind the "going rate" in their communities, and the cost of supplies and equipment has increased dramatically. Also, the continued expansion of the national effort in research poses a serious threat to the proper balance between research and education within an institution. With the financial support of research increasing at the rate of about 30 percent a year and the support of the basic educational program increasing barely enough to keep up with the declining purchasing power of the dollar there is a builtin tendency for individual faculty members and institutions to shift their emphasis farther toward research than is desirable for the educational program. In large part, research within a medical school is, and should be literally inseparable from education; the same students and faculty being engaged to some extent in both activities simultaneously in the laboratory, conference room, or hospital ward. What is needed is more substantial support for the basic educational program.

After prolonged and careful consideration, the Association of American Medical Colleges has reached the opinion that it is necessary and wise, in the national interest, for the Federal Government to begin to participate in meeting the basic cost of operating the educational programs of medical schools. The reasons for this opinion can be summarized under six categories.

(1) Prompt action on a national scale is necessary if sufficient funds from all sources are to be made available in time. The long experience of each medical school in trying to obtain sufficient funds from private, local, and State sources, plus a decade of experience of trying to increase corporate giving for this purpose through the National Fund for Medical Education and professional support through the American Medical Education Foundation have convinced us that these sources alone cannot supply sufficient funds to expand within a decade a national enrollment that has been achieved through almost 200 years of effort. There is some reason to believe that in this field, as in the construction of health research facilities, Federal support will provide a marked stimulus to the other sources of potential support and thus, through combined effort, the need can be met.

(2) The expansion of population, the largest single factor in creating the need for more physicians, is a national phenomenon, very unevenly distributed among the several States. The graduates of medical schools, wherever located, spread to the four corners of the country as interns, residents, and to pursue their careers. But many of our existing medical schools are located in States in which the population is not increasing rapidly. It is difficult to see how such a State as Alabama, whose population is increasing very slowly, could mobilize enough additional State support to expand enrollments to meet needs in distant and rapidly growing sections. Nor is it likely that privately supported medical schools can obtain the additional funds from private sources to meet such needs without the stimulus of some Federal participation.

(3) Part of the need for the present as well as the future increasing supply of physicians is generated by Federal programs of vital importance. The Armed Forces, the U.S. Public Health Service, the Veterans' Administration and, to a lesser extent, other Federal agencies, could hardly accomplish their mission without steadily replenishing their supply of physicians from the graduates of our medical schools, and it is imperative that such future expansion of their needs, as events may require, be well met.

(4) Part of the need has been generated by programs the Federal Government has stimulated, encouraged, and supported financially. Our great national program of medical research now requires the full-time efforts of a substantial number of physicans and will, in the future, require even more. Our efforts to make the results of that research more quickly and effectively available to patients, such as the Community Facilities and Services Act, require an adequate number of physicians. And such programs as the Hospital Construction Act (Hill-Burton) assume that there will be an adequate number of physicians to staff the needed facilities.

(5) Our relations with less well developed countries make it logical and necessary that we find ways to make available to them the medical knowledge and skill we have. This will require not only appropriate techniques and agreements but also an adequate supply of physicians.

(6) Finally, the Federal participation in the support of the basic cost of the educational program would not seem to involve any new decision concerning policy since several programs of Federal support for graduate education in nearly every field except the health professions already provide "cost of educa-

tion" payments to the institutions and several Federal grants for research training include such basic elements as the salaries of the faculty involved.

We believe H.R. 4999 is an excellent bill as written and would recommend changes in only two details. We do believe that the limitation on the amount of scholarship that could be awarded to an individual should be raised from $2,000 to $2,500 per year (pt. C., sec. 740, par. (c) (2), p. 16). The latter amount is more realistic in relation to the cost of attending medical school for the student who needs full scholarship support and is in line with many other Federal fellowships for graduate study.

We would also recommend that the amount of Federal cost of education payments be increased either by the addition of a lump sum grant of $200,000 a year for each 4-year medical school ($100,000 for each 2-year school), or by increasing the payment per student to accomplish the same end (pt. C., sec. 740, par. (d) (a), p. 17). In this connection it should be emphasized that, as H.R. 4999 is now written, the cost of education payments would increase in four annual steps and reach a maximum of less than 6 percent of the basic operating costs of the Nation's medical schools. The total appropriations authorized by this section would be a little more than $11 million and last year the basic operating expenses of the Nation's medical schools were about $198 million. Close study of the effects of this program in operation for a few years will provide a sound basis for deciding the amount of future authorizations, but the problem is so urgent and the leadtime in developing new schools so long that I am convinced it should start at the higher level recommended.

Mr. Chairman, in closing I would like to make it clear why the Association of American Medical Colleges does not fear that this legislation will lead to Federal interference with the sound prerogatives of the institution, their faculties, their students, or their graduates who constitute the health professions. For more than two decades our member institutions have had extensive experience with large, diverse, and growing Federal programs for the support of research and research training and have found them singularly free of such interference. The legislation itself provides for a National Advisory Council an arrangement most successful to this end in other Federal programs and its noninterference clause is clear and strong.

I am personally convinced that Edmund Burke was right, more than a century ago, when he said: "Government is a contrivance of human wisdom to provide for human wants. Men have a right that these wants should be provided for by this wisdom." Thank you.

Dr. BERSON. First I would like to underscore Dr. Anderson's statement about the need for more physicians and in doing so would like to emphasize that the projection of a 50-percent increase in enrollments and graduation will only be sufficient to maintain by 1975 the present physician population ratio. It is my own opinion that this is truly a minimal objective.

In the testimony this morning, figures were brought out of the gross decrease in the number of physicians in general practice or internal medicine or pediatrics who serve in the family physician capacity. A little more increase in the military needs for medical manpower would produce a severe problem. All of us are concerned about ways to make the results of medical knowledge more quickly available to patients who need it. This will take not only techniques and facilities, but manpower; and to me the opportunity of this country to help less well developed countries improve their health is a very great and exciting challenge, but this too will take more people. So I think that when we speak of simply maintaining the present physician-to-population ratio we are talking of minimal objectives, rather than of anything overly optimistic or necessarily optimal.

The institutional membership of the association is also in unanimous agreement that after considerations of means to get the facilities needed, the next consideration should be given to means to get a sufficient number of well qualified students who choose to study

medicine. It is no secret that we have been losing ground in this respect for some years. In 1956–57 there were 15,900 applicants. But in 1960–61 there were only 14,397, an actual drop of about 1,500.

At first glance it might seem that a little more than 14,000 applicants for 8,200 places leaves a comfortable margin but this is not the case. Any admissions committee in the country could testify that a great many people apply for admission to medical schools who really are not prepared and who would fail out within a very few weeks if they happened to be admitted. So that the gross number of 14,400 includes a very large number of people who are not well prepared for this field.

I want to emphasize that all of the schools have made very strenuous efforts of their own sort to improve this situation through recruitment campaigns, through better contact with the advisers of students in colleges, through having students visit the campus, motion pictures, cooperating with local and county and State medical societies, and the American Medical Association, to recruit talented young people to choose the study of medicine. But in spite of these efforts we are not even holding our own. Those of us who have studied this problem closely are convinced that there are many factors in this decline in the number of applicants, but that a very large factor, and one about which something can be done is the need of students for financial assistance. We are convinced that the high cost of studying medicine, coming as it does after college, plus the fact that going into graduate study in many other fields can be very inexpensive for the student and his family, puts medicine at a disadvantage in recruiting the number of young people we need to expand the medical manpower base of the country. Also, we believe that this financial assistance should come partly through loans but that additional mechanisms, nonrefundable grants, are also needed.

One of the main reasons for this feeling is that, as the Secretary mentioned, we are now getting only 15 percent of our students from the 40 percent of families whose income is less than $5,000 a year. In this country native ability is not distributed according to family income. For a student from such a low-income family to elect a career in medicine which will require a cash outlay of $11,000 or $12,000 on his own or his family's part, in contrast to another useful and fine career in a scientific field that will require no outlay, is a very difficult decision. Some such students still study medicine. There are some very fine people who are getting through medical school on so little money and so much effort that it is amazing. But when you consider the need to expand the enrollment by 50 percent in the future, we do not believe that there will be enough of those unusual people who will make that much effort to meet the need. There are loan funds available and being used. These loan funds have been increased substantially in recent years. Loans under the National Defense Education Act are available to medical students in most schools. My information is that by now some 2,500 students in 78 medical schools borrow money from the national defense loan provisions. This is a new program but it has not reversed the trend in applicants because last year there was a further decline in applicants from the year previous although the schools had continued with their efforts to expand enrollments so that the entering class in the last 2 years had increased in size by 170 from our 8,828 to 8,998.

The contrast with the opportunities to enter many other fields of graduate study is very great. In recent years, particularly since such great attention has been paid to space programs, graduate students in nearly every scientific field have available a wide variety of fellowships, scholarships, and teaching assistantships, to such an extent that many people whose own resources are limited can go into one of those programs after getting their bachelor's degree and be no longer dependent upon their family. When they get their Ph. D. they can go to work at a salary of $6,000 or $7,000 a year.

In our country the concept that the individual who earned a Ph. D. degree usually spent his career in public service and therefore deserved financial assistance by society during his period of study, that has long been a part of our thinking.

I would like to emphasize the fact that in medicine there are already a great many people who spend their careers in public service at relatively low personal income and that there is need for a great many more physicians in that sort of capacity. This is local, State, and Federal public health service, the Veterans' Administration program, mental and TB hospitals, facilities of medical schools, research institutes, the growing opportunities in international fields, the medical missionaries. We need a great many people in these fields.

Actually the medical schools are not unhappy that the support of graduate students in many other disciplines has gotten as solid as it has. We think these fields are essential to the national interest, but we are concerned that, if there continues to be this imbalance in opportunity to choose the field of study, we may not be able to attract and to educate enough physicians to meet the country's needs.

There are real efforts being made to obtain scholarship funds from local and private sources. Not many of these efforts have borne very rich fruit but the efforts are real and very sincere.

One foundation has recently given each medical school $15,000 in nonrefundable grants. This was a one-time gift. We cannot expect it to be repeated.

In my own institution we miss no opportunity to seek funds for scholarships from donors, from the State legislature, but our success is very small to date.

One reason that we feel so strongly that removing this economic obstacle to studying medicine, is the experience of the years immediately after World War II when a great many people had the benefits of the GI bill, and this resulted in not only a bumper crop of fine applicants for the study of medicine but a great many people who had never thought they could study medicine previously, when they found that they had the benefits of that support chose to study medicine. They turned out, in general, to be an extremely satisfactory group of students and they are turning out to be very fine physicians. You have probably seen the figures on how many applicants there were while those benefits were available. This is one reason we think that if we can find ways to remove the economic barrier there will be an adequate number of fine people who choose this profession.

In addition to facilities and an adequate supply of students, the third essential is some means of supporting the basic operating cost of the medical schools. You could quote figures from many schools showing what schools now need, and actually on every hand there is

evidence of underpaid faculty, understaffed programs, failure to institute new programs that are clearly sensible and needed. There is real danger that some medical schools that are having a particularly hard time finding enough operating funds, will be unable to meet reasonable standards and will go out of existence.

So it is not very surprising that some universities which have the academic potential to develop a fine medical school are reluctant to go into that field until there is some better assurance that they can get the money to operate it. The reasons medical schools need more money now than they used to are very simple. Not only has the decreasing purchasing power of the dollar affected them, as all other institutions, but highly trained physicians and scientists and the other trained people they need are in very short supply compared with the demand, so they have had to pay higher wages and salaries than they used to, although they still lag way behind the going rate, and the cost of all the goods and supplies that they use and all the equipment has increased tremendously.

What is needed is not just money to meet the going costs but a sufficiently sound pattern for meeting operating funds so that universities can look forward to creating new schools and expanding the ones that they have.

After a lot of consideration the Association of American Medical Colleges has reached the opinion that it is necessary and wise in the national interest for the Federal Government to begin to participate in meeting the basic operating cost of the educational programs of medical schools. Maybe I can summarize my reasons for this best under six categories.

The first is that prompt action on a national scale is necessary if sufficient funds from all sources are to be made available in time. The long experience of each medical school in trying to obtain sufficient funds from private, local, and State sources plus a decade of experience in trying to increase corporate giving for this purpose through the National Fund for Medical Education and professional support through the American Medical Education Foundation, have convinced us that these sources alone cannot supply sufficient funds to expand within a decade the national enrollment which has been achieved through almost 200 years of effort. There is some reason to believe that in this field as in the construction of health-research facilities, Federal support will provide a marked stimulus to the other sources of potential support and thus through combined effort the need can be met.

The second reason is that the expansion of population, which is the largest single factor in creating a need for more physicians, is a national phenomenom that is very unevenly distributed among the various States. The graduates of medical schools scatter to the four corners of the earth as soon as they graduate, for their internship residence and to follow their career. But many of the schools that exist now are located in States where the population is not expanding much and about half of them are part of privately support universities. It is hard to see, for instance, how Alabama, whose population is expanding only a little bit, can find the resources to meet a growing need for physicians in other parts of the country that are growing rapidly.

Another reason is that part of the need for more physicians is the result of programs of the Federal Government that are tremendously important. The Armed Forces, the Public Health Service, the Veterans' Administration, other Federal agencies could hardly carry out their mission if they could not replenish their supply of doctors as they need them. And part of this need has been generated by programs the Federal Government has stimulated, encouraged, and supported financially. The great national program of research requires right now the full-time services of a good many physicians and it is going to require more in the future. The effort to apply the results of this research to patients is going to take more doctors to carry it out. Such programs as the Hill-Burton program assume that there will be enough doctors to staff those facilities.

A fifth reason is that our relationship with the less well developed countries could benefit greatly if we were able to export the medical knowledge and skill that we have effectively. But this will take people.

Finally, the Federal participation in the support of the basic cost of the educational program would not seem to involve any new decisions concerning policy since several programs of Federal support for graduate education in nearly every field except the health profession, already provide cost of education payments to the institutions and several Federal grants for research training include such basic elements as the salaries of the faculty involved.

We believe this is a good bill as it is written and we would recommend changes in only two details. We do believe that the limitation on the amount of scholarships that could be awarded to an individual should be raised from $2,000 to $2,500 a year because this would be more in line with the actual cost of studying medicine and with many other fellowship programs already in existence.

We also think that it might be wise to consider increasing the cost of education payments either by adding a lump-sum grant to each school or by increasing the per student ratio to accomplish the same thing.

I want to emphasize here that as this bill is now written when the cost of educational payments become fully effective they will amount to about 6 percent of the basic operating cost medical schools of this country had last year, not some future projection.

Mr. Chairman, in closing I would like to make clear why the Association of American Medical Colleges does not fear that this legislation will lead to Federal interference with the sound prerogatives of the institutions, their faculties, their students, or their graduates who constitute the health professions. For more than two decades our member institutions have had extensive experience with large, diverse, and growing Federal programs for the support of research and research training and they have found them singularly free of such interference. The legislation itself provides for a national advisory council, an arrangement most successful to this end in many Federal programs and its noninterference clauses are clear and strong.

Thank you very much.

The CHAIRMAN. Thank you very much, Dr. Berson. Now I believe Dr. Turner has a statement on the other phase of the legislation.

STATEMENT OF DR. THOMAS B. TURNER, DEAN, JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE, BALTIMORE, MD.

Dr. TURNER. Mr. Chairman, members of the committee, I appreciate the courtesy of the privilege of presenting a statement to you.

With your permission, I would like to enter my written statement in the record and summarize briefly what is contained therein.

I would first like to indicate my wholehearted support of the principal provisions of H.R. 4999. The previous speakers have outlined clearly the urgent need for more physicians to care for the health of the American people, keeping in mind that there is a leadtime of 8 to 10 years before we can expect any increased production.

The bill before us deals with two different problems.

First, with how to persuade more qualified students to enter the field of medicine.

Secondly, it deals with how to induce medical schools, which are already overburdened financially, to expand their facilities in order to accept these students, or to persuade overburdened universities to develop new schools.

My own comments will be directed primarily to the health research facilities aspects of the bill but, in doing so, I would like to approach it from two standpoints.

First, for its own merits but, secondly, as an excellent example of how the Government can take the lead in a health program and at the same time increase participation at local levels in the program which it is leading.

This program has been in effect some 7 or 8 years. It has been administered by the Public Health Service and the NIH with its advisory councils with wisdom, in my opinion, and great fairness. The impact on the medical schools has been enormous. To indicate some of its impact, it has led to an enormous expansion of research which in the longrun will greatly benefit the American people.

At the same time, it has greatly enhanced the quality of medical education.

Finally, the research building program has gone a long way toward creating a true medical center of our medical schools so that we are are now geared up to do the job of training almost all types of health personnel that the country will need.

I think that the provisions in this bill are conservative in asking for $50 million for a 3-year period.

Through the health research facilities bill approximately $15 million annually has been going to medical schools for the creation of new or expanding research facilities. This has been matched dollar for dollar at the local level.

There is clear indication that this same amount, $15 million, will be needed annually, for in existing schools, I understand that requests before the NIH Council already exceed this amount.

In addition, additional funds will be needed for the creation of new research facilities in new schools that may be started.

As good as this program has been, however, it has had very little impact on increasing the number of physicians. This is why we would like to support strongly the statements of Dr. Anderson that building funds for educational purposes are needed if we are to produce more doctors and develop medical schools.

Finally, Mr. Chairman, I would like to point out that the construction of new buildings at a medical school immediately adds to the operating cost of that school.

For example, in my own school, Johns Hopkins, we have built new facilities in an amount of approximately $8½ million. This has increased our annual operating budget by $350,000 the type of funds which are very difficult to come by. Merely building the buildings therefore is not going to solve the problems of the school that wishes to expand, or the university that wishes to establish a new medical school.

Mr. Chairman, I thank you very much for the privilege of making this statement.

The CHAIRMAN. Thank you, Dr. Turner.

(The formal statement of Dr. Turner follows:)

STATEMENT OF DR. THOMAS B. TURNER

Mr. Chairman and members of the committee, I am Dr. Thomas B. Turner, dean of the Johns Hopkins Medical School and a member of the executive council of the Association of American Medical Colleges; it is primarily in this latter capacity that I have the privilege of appearing before you today.

I would like first to indicate my support of H.R. 4999 and similar bills. The issue under consideration can be simply stated. This country is facing a serious shortage of physicians and other medical manpower. Indeed, the shortage is already upon us, as can be attested by everyday experience in all parts of the country. At the same time our medical schools are underfinanced. For this reason, existing medical schools are reluctant to increase enrollment and few universities are able to assume the heavy financial burden of starting a new medical school. There is good reason to believe that the help provided in H.R. 4999 will lead to an increase in the number of medical graduates, recognizing that a leadtime of 5 to 10 years will be required before the number of physicians can be significantly augmented.

My own comments will be directed primarily to the construction features of H.R. 4999. Since 1958, in the order of $75 million of Federal funds have been granted for the construction of research facilities in American medical schools. Since 1:1 matching of Federal moneys is required, the total outlay in medical schools for research construction has been at least $150 million. Federal support of research facilities should be continued as provided by H.R. 4999. The impact of this building program and the attendant support of research on the quality of medical education has been immeasurably great. Moreover, it has enabled the medical school to develop into a true medical center, where all types of badly needed medical manpower may be trained.

This forward-looking program should be continued, for the research resources of the country still require augmenting. Of the $30 million available annually for Federal support of research construction, about half has gone to medical schools, and the remainder to independent hospitals, dental schools, and nonmedical institutions. We believe that approximately this same amount will be needed annually for further research construction in existing medical schools. Substantial additional amounts will be required for research construction in new medical schools now in the planning stages.

As valuable as the federally supported research program has been, it has not led to an appreciable increase in the number of physicians graduated. Indeed, an imbalance has crept into our medical schools; for expansion of the teaching program has not kept pace with these great and laudable research accomplishments.

If the number of physicians is to be increased to meet the combined needs of the armed services and the civilian population, and to man expanded medical research facilities, it is important that Federal as well as non-Federal funds begin to go to the support of construction that will augment our educational facilities. Federal funds are needed for two purposes: (1) The expansion and modernization of existing medical schools; and (2) the construction of new medical schools. Since Dr. Anderson has given the committee detailed justi-

fication for both the expansion of the existing schools and the construction of new ones, I will not go into further details.

One final point is pertinent to this problem. The construction of a new building whether for research or educational purposes, or both, immediately throws a financial burden on the medical school for its maintenance. For example, at my own medical school, Johns Hopkins, recent construction of research and educational facilities in the amount of $8.5 million, with the help of Federal funds, has increased our operating budget for building maintenance alone by $350,000 annually. It is the conviction of the Association of American Medical Colleges that along with construction funds the Federal Government should share, through a cost-of-education allowance, in the deficit which each medical student creates—the difference between what he pays in tuition and the actual costs of his education.

Mr. Chairman, please let me thank you for the privilege of appearing before this distinguished committee.

The CHAIRMAN. Mr. Williams, do you have questions of either of these gentlemen?

Mr. WILLIAMS. I have one or two questions I would like to ask Dr. Anderson.

Doctor, throughout your statement you make continual references to your inability to obtain the necessary funds to carry out this program from local sources, including local tax sources.

Has your association appeared before the State legislatures requesting these funds from the States?

Dr. ANDERSON. The association has not, sir, but in those States that have State medical schools, I am sure that the representatives of the universities and schools concerned have made vigorous presentations to the legislature.

Sometimes this is done through the president of the university, sometimes the dean is permitted to speak directly.

Also, wherever there has been a State commission appointed to survey the needs of the State, the medical schools in that State have presented their case as vigorously as they can.

Mr. WILLIAMS. In cases where medical schools have presented their cases before the State legislatures and have actually demonstrated a real need for additional funds, have they been denied those funds?

Dr. ANDERSON. I cannot answer categorically State by State, Congressman Williams, but I think what we are presenting is our judgment based on the experience we have had with State legislatures as to the amount they can provide.

Mr. WILLIAMS. Is it the amount they can provide or the amount they will provide?

Dr. ANDERSON. Well, sir, it is probably some of both. I cannot speak for the legislatures but I would imagine it is some of both.

Again I am no authority on this but I imagine the State legislatures, like universities, are faced with tremendous demands on many fronts and their financial capacity, I imagine, is——

Mr. WILLIAMS. Not nearly so much as the Congress is faced with demands for funds.

The President has indicated he will request Congress to increase the debt ceiling to something above $300 billion. On a per capita basis, our Federal debt exceeds by far that of the States.

It is rather difficult for me to understand how the Federal Government will be in a better financial position to furnish this money than will the States. Yet your statement makes continued reference to it.

Are you forgetting the $300 billion that we owe?

Dr. ANDERSON. No, sir; I think we are quite mindful of that.

Mr. WILLIAMS. I am just wondering, why not make a concerted effort through the States to get these funds because, after all, it is the States' primary responsibility to furnish these funds for this purpose.

I notice the colleges do not seem to have too much trouble to get funds to build a stadium with.

Dr. ANDERSON. I think my best answer to that is, as Dr. Berson explained, this is a national problem and not a State problem, that the need for physicians extends unevenly but widely throughout the Nation and it would seem very difficult to get all 50 States to take concerted action promptly enough and in sufficient scope to meet what is a national problem.

I think that would have to be my answer.

Mr. WILLIAMS. Then do you not think that since education is a national problem perhaps the States could just yield their prerogative of educating their children to the Federal Government? What would be the difference in the programs?

Dr. ANDERSON. I think we look on this, sir, as a partnership between private and local taxing agencies and the Federal Government and I think many of us feel at least that some of the problems today are so large that they can only be solved by a partnership effort.

As I have tried to bring out in my testimony, many of us make this request for Federal assistance with real regret that it is necessary, but we have had a decade of experience of trying to find from other sources the amount of funds we need and when, as I pointed out, we must in the course of a decade increase by 50 percent the facilities that it required 200 years to develop, frankly, our advice, if you will, as trustees of this great national resource, is that the Nation's needs cannot be met without the Federal Government joining in partnership with local and private sources.

Mr. WILLIAMS. Even so you are unable to give us the answer why State legislatures have denied a reasonable request for funds because the State did not have the funds available?

Dr. BERSON. May I speak to that?

Mr. WILLIAMS. Certainly.

Dr. BERSON. I think, Mr. Williams, it would be difficult for any individual to speak for all States. I have now made entirely reasonable and I think well justified presentations to four sessions of the legislature in Alabama under the administration of two different Governors.

In our situation, the State legislature has met in very small part our needs.

One example was the matching funds for a research building. The availability of the matching funds was apparently one of the most persuasive arguments because the availability of the State funds was the other part of this.

Mr. WILLIAMS. What has the Federal Government given to the State of Alabama?

Dr. BERSON. I do not know.

Mr. WILLIAMS. Is it as large on a per capita basis as the public debt of the Federal Government?

Dr. BERSON. I doubt that very seriously, but I am not really expert on the State's indebtedness.

My point is that in two sessions of the legislature the Governor and the committees expressed to me and to the university's president serious regret that they were unable to provide the funds to meet our well justified requests.

Now, I cannot look beyond their statement of inability in any informed manner but this is what they told me and I am convinced they felt that way.

Mr. WILLIAMS. I, of course, would not want to question the purpose for which these funds would be used. No one would question that.

But I have my serious doubts as to whether this is properly the Federal responsibility, particularly in the light of the tremendous national debt that we are staggering under.

Now, in regard to one more item and I am through, you make reference throughout your statement to the ever-increasing cost of construction. For example, on page 2, you make this statement. You say:

> But even those of us who must regret the need to seek Federal assistance could come to no other conclusion as we examined soberly and realistically the costs of building and operating modern medical schools.

Do you endorse the provision which is included in H.R. 4999 known as the Davis-Bacon Act, which would undoubtedly require even a greater increase in the cost of construction, or which would prevent the cost of construction from being lowered considerably? Do you endorse that?

Dr. ANDERSON. I think we are going here into political and economic areas on which we are not expert to pass an opinion, Mr. Williams.

Mr. WILLIAMS. Doctor, you have endorsed a bill and this is part of the bill and is a very vital part of the bill. You have endorsed it on the basis that you need money to keep up with the costs of construction, and so forth, it has gone so high that the States cannot take care of it.

I wonder if you also endorse the idea of giving the Department of Labor the right to put a floor under the labor costs?

Dr. ANDERSON. I think all I can say, sir, is that we are testifying to the medical aspects of the bill. We will have to leave to those who are more competent——

Mr. WILLIAMS. Would you like to express a personal opinion on that?

Dr. ANDERSON. I regret anything that unnecessarily increases construction costs.

Mr. WILLIAMS. Thank you.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Dr. Berson, do we understand from your testimony that you have educational facilities for medical students that are unused?

Dr. BERSON. No, sir; I did not mean to leave that impression. The number of students applying is declining while the number of entering places is increasing. But there are still enough students to fill every place in every school.

Mr. YOUNGER. You are talking about your own?

Dr. BERSON. In our own there are enough students to fill every place at the moment.

Mr. YOUNGER. I gathered from your testimony that you were endeavoring to recruit students and that you were not very successful.

Dr. BERSON. Yes, sir, we would like to have more applicants from which to choose the 80 students who enter.

We would like at some time to plan expansion. This would not be wise unless the supply of good students was also expanding. But we are very anxious to stop the decline in the number of applicants which has been going on for us locally as well as nationally.

Mr. YOUNGER. It is not a question of students, then. It is a question of applicants. And you do not have as great a choice among applicants as you would like to have?

Dr. BERSON. Yes, sir. We end up accepting about 15 out of the 80 who look to their college advisers and our admission committee as very poor risks. Some of them work out all right. Some of them turn out the way their professors have predicted they would. This is a tragedy for them.

We would like to be able to select 80 instead of 65 who look like fine risks because, even so, your predictions are not entirely accurate.

Mr. YOUNGER. So that you are advocating the scholarships to encourage more applicants who might apply due to the fact that they have scholarships offered rather than their having to pay their own way?

Dr. BERSON. Yes, sir. We are convinced in our own school and in the association nationally that among this large segment of the population whose family income is $5,000 or less, there is quite a lot of native ability, and if you could say to a talented high school student that "If you are good enough and interested enough, the financial problems of studying medicine can be solved," that this would lead a lot of people to choose medicine.

Mr. YOUNGER. There is a standard in this bill of need that would be determinative.

Dr. BERSON. Yes.

Mr. YOUNGER. I know in regard to the present scholarships which are only granted on need.

Dr. BERSON. Yes, sir.

Mr. YOUNGER. We had a boy back here who was a page, who was an A-student, and eligible certainly for a scholarship. Unfortunately, his folks were in no financial position to send him to Stanford and he was passed up, he could not get the scholarships. This need

requirement is in the bill. As to how it is going to be applied, we are not sure yet, as to where the limit is going to be as to income for the family.

I have one other question. One of the reasons given as to why the doctors' bills are so high is that it takes such a long time to become a doctor and it is such an expensive education. Now, if we grant scholarships to assist in the paying for that education, do you think this will tend to drive down the cost of medicine?

Dr. BERSON. Mr. Younger, I think predicting that sort of thing is difficult.

It is my own opinion, personally, that unless we forestall the shortage of doctors that I foresee in the future, the likelihood of doctors' fees going up will be very real.

One of the basic forces counteracting high fees in all of our society is if you do not like the high fee of this individual lawyer, doctor or whatever, you choose someone else.

If there is a great shortage of doctors, the individual's choice of some other doctor will be very much limited.

I would think that an adequate supply of physicians is a basic approach to doctors' fees getting to a point that people consider inappropriate.

Mr. YOUNGER. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Collier?

Mr. COLLIER. Yes, Mr. Chairman.

As we progress through these hearings some of the statements that have just been made rather trouble me. They are these: I directed a question to the Secretary yesterday asking whether or not existing facilities could handle any more medical students than they presently do. Substantially, the answer was "No."

In further testimony, it was stated that if this program got off the ground, let us say it was enacted in this session of Congress, it would be 2 years before existing facilities could be renovated and expanded to the point where they would be available to accept students.

It was further stated that it would be as much as 3 to 5 years before any new facilities could be established.

Now, this legislation, as you know, is generally broken into rather distinct provisions, the scholarship-fellowship angle, and, of course, the brick and mortar.

Now, if it is going to take roughly 2 years to provide additional and renovated facilities in the case of the existing facilities and if it is going to take 3 to 5 years to establish new facilities, then why is it necessary to embark upon the balance of the program until the other phases are established?

In other words, why provide seed before we prepare the lawn for planting?

Does that not seem sensible to get the program off the ground that the original appropriation and the bill itself should embrace primarily a physical facility that would be necessary then to accommodate the students?

Dr. ANDERSON. That is a very good question, Mr. Collier.

I think the answer is this. We are gravely concerned about a trend which has been downward. We believe it is important to reverse that trend just as promptly as we can and we believe that the assurance of financial assistance, to those students who require it will be important in reversing the trend.

Now, just as it takes 2 or 3 years to build these facilities or even longer and put them in operation, it takes 4 years for a man to prepare himself to enter medical school. So that, from those students entering college next fall as freshmen, if we expect to draw more premedical students from that class when they graduate 4 years later we would like to encourage them as they enter school to believe that medical education is financially not beyond their resources.

So there is a long lead time necessary to build up our pool of applicants.

Mr. COLLIER. Might I suggest, legislatively speaking, then if that is the case it would seem to me that the most feasible program would be to embrace for these first 2 or 3 years in the necessary degree this program within the present framework of the National Defense Education Act which presently, as you know, gets into such things as modern languages and so on, with which I have no quarrel, but certainly has departed from the principle of defense as such, as certainly is medicine.

It would seem to me that if this is the case and until such time as we secure the necessary physical facilities to handle the enrollments, we should probably give some thought to the feasibility of putting this under the National Defense Education Act which would insure, as you say is necessary, to the prospective student this assistance.

A program announced on that basis would provide further assurance that it is in fact the intent of Congress to do this.

Dr. ANDERSON. There is one limitation in the National Defense Education Act loan program that works very disadvantageously to the medical students; namely, he must begin repaying that loan 1 year after he completes his formal education, namely, 1 year after he gets his M.D. degree and he must complete repayment within 10 years.

As we have brought out, the average medical graduate today spends 2 to 5 years as an intern and resident at a very low stipend, many of them struggling to raise a family. So, this requirement of these loans that repayment start at such an early date limits very greatly their usefulness to medical students.

Mr. COLLIER. I am happy you said that, Doctor, because that meets with the points that I made in the hearings this morning and that is to provide, as an incentive, a waiver as in the case of teachers, which is presently written into the National Defense Education Act, of part of this sum.

I think this would be more attractive. I would much rather have everybody I owe money to tell me I only have to pay half of it rather than the whole thing over a period of time.

I feel this would provide more of an incentive and I think this angle should be explored.

Dr. ANDERSON. I believe there is one other problem, Mr. Collier. I think the maximum that may be borrowed under the National Defense Education Act by any individual is $5,000. If the boy has used up his credit going through college, he has little or no credit against this particular loan program on which to draw as he goes through the 4 years of medical school.

What I am bringing out is that as it presently operates this loan program, while it is of some help to our medical student, is very limited in its value.

Mr. COLLIER. I have just one further observation referring to the remarks that Dr. Berson made in regard to the recruiting and generally the public relations problem of inducing young people to go into medicine. As we all know, after the Soviet Union sent a little metal ball whizzing around the earth in space, we began to completely reevaluate the whole set of standards for higher education, the result of which was a tremendous emphasis upon mathematics and certain fields of science, in the fields of engineering, the further result of which, if the reports we get from time to time from enginering societies are accurate, we now have a surplus of engineers in this country. I am not suggesting that we de-emphasize the need for good engineers; but I am suggesting that perhaps something in the area of a different public relations approach to generate this same deep interest in attracting more medical students.

Dr. ANDERSON. This is, of course, a very real part of our problem, the number of fields now that compete in interest with medicine. It is only a short time ago when there were only three major areas into which a man could go for graduate study: law, ministry, and medicine.

A hundred years ago, this was the limit practically of graduate study. Yet in the last 50 years, as you have pointed out, even in the last 10 years, many other exciting fields of intellectual activity have appeared and are competing vigorously with us.

At one time in medicine we got one-third of all the college graduates.

Today we are getting less than 5 percent.

Every year over recent decades, the percent of college graduates going into medicine has declined, for very good reasons.

Physics, chemistry, astronomy, space science, engineering, social sciences, all now offer exciting opportunities in graduate and professional study.

At the moment, as we have pointed out, because of the very substantial Federal fellowship and scholarship programs in the other sciences, we are at an increasing disadvantage in attracting students.

Mr. COLLIER. Perhaps TV's Dr. Ben Casey will add a little glamour to the profession.

Mr. O'BRIEN. May I ask if the distinguished deans and gentlemen who were introduced will be permitted to file statements in the record if they do not testify personally?

The CHAIRMAN. Yes, you may have that privilege, any one of the deans who are here who have been introduced, or any other who are unable to be here desire to include a statement in the record, may have the privilege.

Mr. O'BRIEN. Mr. Chairman, that leads up to a rare opportunity.

I seldom have any witnesses here from my hometown. I was a little abashed when I realized the extent of the football might at that end of the table. The University of Arkansas, the University of Alabama, and the University of Mississippi. Little Union University does not belong in that league but scholastically, I think perhaps we do.

I would like to welcome here the very distinguished dean of the Albany Medical College, Dr. Harold C. Wiggers, a small college compared to some but the heart and center of the Albany Medical Center which services about 2 million people in 18 counties. So it is big league in that respect.

I am happy that he is here today. I have known him for many years. I talked to him about this problem before this bill came in.

I would like to ask one question. All three of the gentlemen who testified mentioned the fact that this Federal aid, Federal assistance would serve as a stimulus, the word they use was "stimulus."

Do you believe, Dr. Anderson, that if we get these Federal grants for construction and scholarships or one or the other that it will dry up or increase local contributions by private sources or State legislatures?

Dr. ANDERSON. Mr. O'Brien, based on the experience of both the Hill-Burton Act and Health Research Facilities Act, I am convinced it will increase local contributions rather than dry them up.

Mr. O'BRIEN. All of you gentlemen are deans and I assume that the young men you talk with would be students, but, Doctor, have you had the personal experience as a dean of being forced to turn away from your institution young men or women that you recognized as good potential doctors because of their economic status?

Dr. ANDERSON. We try, Mr. O'Brien, if we see a man of merit, to somehow or other help him finance his way through medical school. Our concern is that we do not see the promising young boys who at the high school level or early in college feel medical education is too expensive. We never get a chance to see them and offer them help.

But we also know that even with the efforts we make today to help the worthy and deserving student that we are not able to provide the amount of help that they deserve. The result is many of them are carrying work outside of their medical school course and we think the study of medicine is a full-time occupation. We think this interferes not only with their studies but also jeopardizes their health. Our boys are earning a very large part of what it costs them to go through medical school today. They are not lazy.

Mr. O'BRIEN. Then your position is that many of these young people at the high school level, or when they begin to think of medical education, either they or their families recognize the economic impossibility and they go in other fields and you lose some good people?

Dr. ANDERSON. Yes, sir.

Mr. O'BRIEN. Now, some questions here have related to the standards that might be used for need. Do you not think it would be rather difficult for Congress to put a dollar figure on that? Would there not be instances, for example, where a family might have an income of $10,000 a year but there might be a situation there, known to the local group that would pass on these things, such as an invalid wife, where a person of that income would actually have less spare cash for the education of a child than some one with a lesser income?

Dr. ANDERSON. Yes, sir. When we consider a scholarship application, we ask for full information about not only the family's finances but about their financial responsibilities. We ask each student to give us the income of his father and his mother, to list all the persons who are dependent on his father, and his mother if she is a wage earner, and we ask him to list all the resources that he personally has in the way of either income or property, down to a savings bank account, stocks, automobiles, or whatever it may be, and then we ask him to give us a statement as to how much his family will provide him, how much he has earned both in course and during vacations, and then we ask him for a detailed statement of his expenses.

The scholarship committee then sits down and carefully weighs all of these things. If necessary, the boy is called in for a further discussion of his financial situation.

So we make—as you suggest, we take all factors into consideration that properly should be in determining need.

Mr. O'BRIEN. Then there is no need for alarm on the part of this committee over the possibility that one of these committees might give an economic need scholarship to the son of a president of a large bank in the community?

Dr. ANDERSON. No, sir.

Mr. O'BRIEN. Just one final thought. I agree to a great extent with Mr. Collier and with the suggestion that he made, but I am not so sure about the public relations approach. I realize that we did swing into action and appropriate a lot of money when that little metal ball went around and the wrong people sent it first. But I do not think we can

do quite the same thing here. I do think it is just as important to the health of our people, although not perhaps as dramatic, to move into this field.

Thank you.

The CHAIRMAN. I will say to my colleague from New York we are well aware in that part of the country of the high intellectual attainment and the caliber of the institutions up your way, but we have also heard of Syracuse.

Mr. Thomson?

Mr. THOMSON. No questions.

The CHAIRMAN. Mr. Kornegay?

Mr. KORNEGAY. Doctor, talking of education generally, there has been some suggestion by some people that the facilities, school buildings, are not being used enough, or that by using them more we could handle the problem of overcrowded schools. I am talking now primarily of the public school systems where the buildings are used only 9 months of the year; they stand idle so many hours a day or so many many months out of the year. Is any thought being given to fuller utilization of the present medical facilities if such is possible? I do not know that it is. I just want to find out, first, if you think it is possible and, second, whether any thought is being given either by your organization or by the individual medical schools of fuller utilization of existing facilities?

Dr. ANDERSON. Mr. Kornegay, I think the best answer I can give you is that the average medical school operates at least 6 days a week from roughly 8 to 8:30 in the morning until well after 6 o'clock at night, and, of course, those parts of the medical school that have to do with the care of patients, they are usually in operation 24 hours a day, 7 days a week, as we all know.

Now, under the pressures of the work we are doing now, I believe most of us have exercised our ingenuity to the maximum to get the maximum utilization out of our present space.

I think it is worthy of note that even during the traditional summer vacation periods, the medical schools are now really making use of their plant. Several schools have extended their school year to a full 12-month school year. Others, such as our own, in which we still maintain a summer vacation, encourage their students to stay on as summer student fellows, research assistants, and the like. In any one summer over a third, now approaching close to one-half, of our students are still there in the medical school even though nominally they are on vacation.

Further, through the use of what we call multidisciplinary laboratories, we are trying to make more efficient use of the space so that the student is using the same laboratory in courses in anatomy, biology,

chemistry, which means he is in them all the time instead of having separate laboratories which would mean they were being put to use only one-third of the time. I would say there is not much fat to be squeezed out of our present space.

Mr. KORNEGAY. In other words, in your opinion, existing facilities are being utilized to their maximum extent?

Dr. ANDERSON. Yes, sir.

Mr. KORNEGAY. I have one more question, Doctor. If this piece of legislation is passed and becomes law, do you think there will be any real problem in recruiting the needed faculties, or additional teaching personnel, in order to handle the increase in enrollment which you anticipate?

Dr. ANDERSON. I do not believe so, sir. We have been able to double our faculties in the past 10 years. We have been able to staff six new medical schools and, as a result of the research training programs of the NIH, we have a growing pool of young, very able, well-trained men, who, as added opportunities to take faculty positions come along, will be ready to step into these.

Now, there are a few areas, certain subjects, which have not attracted very many men, such as anatomy, anesthesiology, pathology, to mention a few, where it may be very difficult. On the other hand, I think the knowledge that opportunity exists will attract people.

So I believe, Mr. Kornegay, while we may all feel a squeeze for a period, we can provide the faculty for the expanded facilities needed.

Mr. KORNEGAY. Thank you.

The CHAIRMAN. Mr. Friedel, do you have any questions?

Mr. FRIEDEL. No questions, Mr. Chairman.

The CHAIRMAN. Dr. Anderson, I would like to pursue for just one moment the question which I think Mr. Collier appropriately raised this morning.

Can you and your organization provide for the committee information from each and every medical school in the country, which I believe, are 86 in number, for each of the last 5 years on the number of students that were admitted and the number that the school could accommodate?

Dr. ANDERSON. Yes, sir, we can do that. We will be happy to do so.

The CHAIRMAN. Do you know of any medical school during this period of time that could have accommodated more students than they did accept or had applications for?

Dr. ANDERSON. I would like to poll each school to be sure of our answer.

We will poll them and supply that information, Mr. Chairman, to be sure that our information is accurate.

The CHAIRMAN. Would it take much time to supply this information?

Dr. ANDERSON. No, sir; I believe we could get it within a matter of 2 weeks at the most, I would think.

Mr. YOUNGER. Would it not be well at the same time we have those figures to get the number of applicants as well as the number that were admitted just for comparison's sake?

The CHAIRMAN. Yes, we would like to have that information.

Dr. ANDERSON. Mr. Chairman, we can very quickly provide you with the total number of applicants from the United States.

The number per school is not very meaningful because, as you all know, many of these men make multiple applications.

So, the one firm figure that you have on which to measure the pool of students is the national number of individual students applying to one or more medical schools.

The CHAIRMAN. Do you have that information?

Dr. ANDERSON. Yes, sir. We can provide that.

The CHAIRMAN. I think that would give us more accurate information.

Mr. YOUNGER. That is right.

The CHAIRMAN. If you would supply that for us.

Dr. ANDERSON. Yes, sir; we will be very happy to.

(The information referred to follows:)

5-year summary of admission and enrollment data for all schools of medicine, 1956–57—1960–61

	Academic year				
	1956–57	1957–58	1958–59	1959–60	1960–61
Total applications	59,798	60,951	59,102	57,888	54,662
Total applicants	15,917	15,791	15,170	14,952	14,397
Number enrolled	8,014	8,030	8,128	8,173	8,298
Percent enrolled	50.3	50.8	53.5	54.6	57.6
Total student enrollment (1st through 4th year classes)	29,130	29,473	29,614	30,084	30,288
Total graduates	6,796	6,861	6,860	7,081	6,994

TABLE I.—*Summary of application, admission, and enrollment data for each U.S. school of medicine for the 5-year period 1956–57 to 1960–61*

[NOTE.—Data for University of Florida College of Medicine, Seton Hall College of Medicine, and University of Kentucky School of Medicine incomplete because they were or are newly developing schools. Data for West Virginia University School of Medicine incomplete because it is in transition from a 2- to a 4-year program]

State and medical school	Ownership	1956–57				1957–58					
		Applicants	1st year class	Percent applicants enrolled	Total enrolled (4 years)	Graduates, July 1, 1956, to June 30, 1957	Applicants	1st year class	Percent applicants enrolled	Total enrolled (4 years)	Graduates, July 1, 1957, to June 30, 1958
Alabama: Medical College of Alabama	Public	280	81	28.5	299	71	297	81	27.3	289	68
Arkansas: University of Arkansas School of Medicine	do	164	100	60.9	341	77	180	93	51.6	345	85
California:											
Loma Linda University School of Medicine	Private	202	98	48.5	376	98	185	112	60.5	384	96
University of California at Los Angeles	Public	557	50	8.9	180	36	585	49	8.3	195	47
University of Southern California at Los Angeles	Private	676	68	10.0	266	68	647	67	10.3	264	60
Stanford University School of Medicine	do	511	62	12.1	232	57	513	62	12.0	234	54
University of California at San Francisco	Public	533	78	14.6	312	74	411	79	19.2	324	83
Colorado: University of Colorado School of Medicine	do	232	84	36.2	322	70	211	85	40.2	318	79
Connecticut: Yale University School of Medicine	Private	995	80	8.0	322	80	994	79	7.9	309	72
District of Columbia:											
Georgetown University School of Medicine	do	952	114	11.9	424	114	1,036	108	10.4	407	100
George Washington University School of Medicine	do	1,355	102	7.5	372	88	1,370	101	7.3	383	90
Howard University College of Medicine	do	451	78	17.2	297	72	534	103	19.2	320	67
Florida:											
University of Florida College of Medicine	Public	399	47	11.7	47	----------	319	51	15.9	92	----------
University of Miami School of Medicine	Private	189	71	37.5	236	34	227	79	34.8	265	60
Georgia:											
Emory University School of Medicine	do	646	74	11.4	286	74	672	74	11.0	278	66
Medical College of Georgia	Public	266	102	38.3	376	78	273	103	37.7	386	93
Illinois:											
Chicago Medical School	Private	1,058	74	7.0	277	66	1,090	73	6.7	275	65
Northwestern University School of Medicine	do	1,482	133	8.9	520	126	1,439	130	9.0	519	131
Stritch School of Medicine of Loyola University	do	827	88	10.6	330	82	829	88	10.6	337	73
University of Chicago School of Medicine	do	1,023	72	7.0	287	69	1,111	72	6.4	288	70
University of Illinois School of Medicine	Public	667	191	28.6	644	146	549	190	34.6	677	150
Indiana: Indiana University School of Medicine	do	452	159	35.1	583	139	505	158	31.2	583	138
Iowa: State University of Iowa College of Medicine	do	189	122	64.5	433	97	203	120	59.1	434	104
Kansas: University of Kansas School of Medicine	do	355	104	29.2	415	107	360	102	28.3	412	107
Kentucky:											
University of Kentucky School of Medicine	do	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
University of Louisville School of Medicine	Private	285	104	36.5	379	90	262	103	39.3	382	95
Louisiana:											
Louisiana State University School of Medicine	Public	277	125	45.1	428	96	298	125	41.9	434	95
Tulane University School of Medicine	Private	936	134	14.3	506	124	1,049	134	12.7	503	128

Maryland:											
Johns Hopkins University School of Medicine	do	950	78	8.2	293	67	901	74	8.2	293	75
University of Maryland School of Medicine	Public	328	93	28.3	363	94	338	93	27.5	355	78
Massachusetts:											
Boston University School of Medicine	Private	1,158	76	6.5	286	69	1,211	74	6.1	291	71
Harvard Medical School	do	1,370	115	8.3	515	145	1,277	114	8.9	512	135
Tufts University School of Medicine	do	747	112	15.0	441	113	840	114	13.5	430	109
Michigan:											
University of Michigan School of Medicine	Public	676	202	29.8	762	186	652	206	31.5	750	169
Wayne State University School of Medicine	do	398	77	19.3	285	65	408	75	18.3	282	72
Minnesota: University of Minnesota Medical School	do	300	130	43.3	474	109	351	131	37.3	489	113
Mississippi: University of Mississippi School of Medicine	do	182	76	41.7	214	24	189	80	42.3	253	44
Missouri:											
University of Missouri School of Medicine	do	178	75	42.1	170	21	190	75	39.4	206	32
St. Louis University School of Medicine	Private	1,080	123	11.3	481	112	1,269	121	9.5	467	117
Washington University School of Medicine, St. Louis	do	1,316	86	6.5	347	93	1,536	86	5.5	344	87
Nebraska:											
Creighton University School of Medicine	do	675	76	11.2	287	69	787	77	9.7	283	64
University of Nebraska College of Medicine	Public	213	87	40.8	318	77	239	87	36.4	327	83
New Jersey: Seton Hall College of Medicine	Private	882	80	9.0	80	----------	1,042	80	7.6	157	----------

KANSAS STATE UNIVERSITY
MAR 12 1962
MANHATTAN, KANSAS

TABLE I.—*Summary of application, admission, and enrollment data for each U.S. school of medicine for the 5-year period 1956–57 to 1960–61*—Continued

[NOTE.—Data for University of Florida College of Medicine, Seton Hall College of Medicine, and University of Kentucky School of Medicine incomplete because they were or are newly developing schools. Data for West Virginia University School of Medicine incomplete because it is in transition from a 2- to a 4-year program]

State and medical school	Ownership	1958–59				1959–60					
		Applicants	1st year class	Percent applicants enrolled	Total enrolled (4 years)	Graduates, July 1, 1958, to June 30, 1959	Applicants	1st year class	Percent applicants enrolled	Total enrolled (4 years)	Graduates, July 1, 1959, to June 30, 1950
Alabama: Medical College of Alabama	Public	326	81	24.8	297	64	386	80	20.7	300	71
Arkansas: University of Arkansas School of Medicine	do	179	95	53.0	339	69	167	92	55.0	343	86
California:											
Loma Linda University School of Medicine	Private	191	114	59.6	371	81	235	105	44.6	381	85
University of California at Los Angeles	Public	594	56	9.4	208	46	523	57	10.9	218	49
University of Southern California at Los Angeles	Private	687	68	9.8	260	66	643	69	10.7	272	64
Stanford University School of Medicine	do	660	61	9.2	237	57	708	71	10.0	242	57
University of California at San Francisco	Public	617	101	16.3	338	80	642	101	15.7	358	79
Colorado: University of Colorado School of Medicine	do	217	86	39.6	317	81	243	85	34.9	312	71
Connecticut: Yale University School of Medicine	Private	1,057	81	7.6	316	79	904	80	8.8	303	72
District of Columbia:											
Georgetown University School of Medicine	do	1,165	112	9.6	404	93	1,058	113	10.6	404	102
George Washington University School of Medicine	do	1,271	101	7.9	389	91	1,315	102	7.7	392	97
Howard University College of Medicine	do	662	105	15.8	337	75	609	105	17.2	355	69
Florida:											
University of Florida College of Medicine	Public	318	50	15.7	137		402	49	12.1	177	40
University of Miami School of Medicine	Private	237	75	31.6	262	59	220	81	36.8	273	56
Georgia:											
Emory University School of Medicine	do	693	74	10.6	284	65	612	77	12.5	293	71
Medical College of Georgia	Public	262	102	38.9	370	88	292	102	34.9	365	88
Illinois:											
Chicago Medical School	Private	999	72	7.2	274	68	1,057	73	6.9	267	65
Northwestern University School of Medicine	do	1,383	132	9.5	521	133	1,314	130	9.8	520	132
Stritch School of Medicine of Loyola University	do	734	88	11.9	340	86	695	88	12.6	326	79
University of Chicago School of Medicine	do	990	73	7.3	290	69	958	73	7.6	299	75
University of Illinois School of Medicine	Public	661	201	30.4	707	153	665	200	30.0	731	170
Indiana: Indiana University School of Medicine	do	512	160	31.2	585	140	523	182	34.7	601	132
Iowa: State University of Iowa College of Medicine	do	199	120	60.3	437	100	170	120	70.5	436	103
Kansas: University of Kansas School of Medicine	do	306	98	32.0	402	101	284	101	35.5	393	98
Kentucky:											
University of Kentucky School of Medicine	do										
University of Louisville School of Medicine	Private	330	100	30.3	370	86	303	99	32.6	375	89

Louisiana:											
Louisiana State University School of Medicine	Public	275	129	46.9	443	110	268	128	47.7	437	95
Tulane University School of Medicine	Private	1,085	134	12.3	494	118	1,149	132	11.4	499	118
Maryland:											
Johns Hopkins University School of Medicine	do	1,000	74	7.4	282	68	823	78	9.4	286	63
University of Maryland School of Medicine	Public	337	100	29.6	363	83	299	100	33.4	369	84
Massachusetts:											
Boston University School of Medicine	Private	1,183	74	6.2	285	66	1,140	72	6.3	284	71
Harvard Medical School	do	1,274	114	8.9	516	147	1,119	116	10.3	505	143
Tufts University School of Medicine	do	1,001	114	11.3	432	104	1,066	114	10.6	438	103
Michigan:											
University of Michigan School of Medicine	Public	603	197	32.6	744	186	798	196	24.5	720	177
Wayne State University School of Medicine	do	314	125	39.8	328	66	364	126	34.6	375	63
Minnesota: University of Minnesota Medical School	do	307	139	45.2	504	113	320	141	44.0	514	122
Mississippi: University of Mississippi School of Medicine	do	252	78	30.9	272	62	220	80	36.3	274	63
Missouri:											
University of Missouri School of Medicine	do	207	76	36.7	234	31	174	75	43.1	272	59
St. Louis University School of Medicine	Private	1,148	126	10.9	451	116	1,101	113	10.2	420	97
Washington University School of Medicine, St. Louis	do	1,414	86	6.0	342	88	1,303	86	6.6	343	85
Nebraska:											
Creighton University School of Medicine	do	1,069	77	7.2	277	70	995	77	7.7	271	65
University of Nebraska College of Medicine	Public	204	81	39.7	312	72	208	85	40.8	314	80
New Jersey: Seton Hall College of Medicine	Private	1,259	80	6.2	224		1,156	81	7.0	299	71

TABLE I.—*Summary of application, admission, and enrollment data for each U.S. school of medicine for the 5-year period 1956–57 to 1960–61*—Continued

State and medical school	Ownership	1960-61				
		Applicants	1st year class	Percent applicants enrolled	Total enrolled (4 years)	Graduates, July 1, 1960, to June 30, 1961
Alabama: Medical College of Alabama	Public	310	80	25.8	300	76
Arkansas: University of Arkansas School of Medicine	do	146	92	63.0	336	82
California:						
Loma Linda University School of Medicine	Private	291	103	35.3	380	87
University of California at Los Angeles	Public	524	71	13.5	238	53
University of Southern California at Los Angeles	Private	534	69	12.9	278	66
Stanford University School of Medicine	do	712	60	8.4	234	52
University of California at San Francisco	Public	614	103	17.0	377	73
Colorado: University of Colorado School of Medicine	do	441	85	19.2	327	73
Connecticut: Yale University School of Medicine	Private	918	80	8.7	311	67
District of Columbia:						
Georgetown University School of Medicine	do	1,148	117	10.1	397	88
George Washington University School of Medicine	do	1,231	102	8.2	389	95
Howard University College of Medicine	do	591	106	18.1	369	83
Florida:						
University of Florida College of Medicine	Public	364	53	14.5	179	41
University of Miami School of Medicine	Private	300	82	27.3	286	69
Georgia:						
Emory University School of Medicine	do	588	75	12.7	287	69
Medical College of Georgia	Public	249	104	41.7	366	84
Illinois:						
Chicago Medical School	Private	965	76	7.8	263	65
Northwestern University School of Medicine	do	1,075	131	12.1	520	126
Stritch School of Medicine of Loyola University	do	565	88	15.5	321	81
University of Chicago School of Medicine	do	917	73	7.9	293	75
University of Illinois School of Medicine	Public	641	200	31.2	741	169
Indiana: Indiana University School of Medicine	do	546	194	35.5	630	141
Iowa: State University of Iowa College of Medicine	do	172	124	72.0	448	96
Kansas: University of Kansas School of Medicine	do	330	105	31.8	389	92
Kentucky:						
University of Kentucky School of Medicine	do	417	40	9.5	40	
University of Louisville School of Medicine	Private	329	95	28.9	359	85
Louisiana:						
Louisiana State University School of Medicine	Public	245	142	59.2	460	101
Tulane University School of Medicine	Private	928	133	14.3	499	115
Maryland:						
Johns Hopkins University School of Medicine	do	816	78	9.5	299	69
University of Maryland School of Medicine	Public	428	98	22.8	377	87

Massachusetts:						
Boston University School of Medicine	Private	1,044	74	7.0	285	62
Harvard Medical School	do	936	117	12.5	482	131
Tufts University School of Medicine	do	792	115	14.5	443	109
Michigan:						
University of Michigan School of Medicine	Public	626	200	31.9	723	177
Wayne State University School of Medicine	do	436	125	28.6	417	71
Minnesota: University of Minnesota Medical School	do	313	141	45.0	507	113
Mississippi: University of Mississippi School of Medicine	do	228	81	35.5	274	54
Missouri:						
University of Missouri School of Medicine	do	195	81	41.5	280	62
St. Louis University School of Medicine	Private	954	122	12.7	425	88
Washington University School of Medicine, St. Louis	do	1,044	88	8.4	336	85
Nebraska:						
Creighton University School of Medicine	do	845	77	9.1	274	52
University of Nebraska College of Medicine	Public	200	90	45.0	319	74
New Jersey: Seton Hall College of Medicine	Private	1,137	80	7.0	296	69

TABLE I.—*Summary of application, admission, and enrollment data for each U.S. school of medicine for the 5-year period 1956–57 to 1960–61*—Continued

NOTE.—Data for University of Florida College of Medicine, Seton Hall College of Medicine, and University of Kentucky School of Medicine incomplete because they were or are newly developing schools. Data for West Virginia University School of Medicine incomplete because it is in transition from a 2- to a 4-year program]

State and medical school	Ownership	1956–57				1957–58					
		Applicants	1st year class	Percent applicants enrolled	Total enrolled (4 years)	Graduates, July 1, 1956, to June 30, 1957	Applicants	1st year class	Percent applicants enrolled	Total enrolled (4 years)	Graduates, July 1, 1957, to June 30, 1958
New York:											
Albany Medical College of Union University	Private	1,215	68	5.6	230	49	1,106	63	5.7	229	60
University of Buffalo School of Medicine	do	827	84	10.1	300	65	801	84	10.4	304	78
Albert Einstein College of Medicine	do	1,093	96	8.7	151	----------	1,139	98	8.6	245	----------
Columbia University College of Physicians and Surgeons.	do	1,612	120	7.4	472	114	1,680	120	7.1	470	115
Cornell University Medical College	do	1,302	84	6.4	335	86	1,325	84	6.3	334	81
New York Medical College	do	1,969	128	6.5	486	109	1,794	128	7.1	497	115
New York University College of Medicine	do	1,490	136	9.1	522	127	1,335	134	10.0	519	125
State University of New York at New York	Public	1,503	155	10.3	587	145	1,321	153	11.5	589	145
University of Rochester School of Medicine	Private	1,174	71	6.0	279	65	1,120	71	6.3	283	73
State University of New York at Syracuse	Public	1,087	79	7.2	288	63	1,094	86	7.8	300	71
North Carolina:											
Duke University School of Medicine	Private	819	78	9.5	319	80	865	79	9.1	315	81
Bowman Gray School of Medicine	do	630	54	8.5	209	55	812	54	6.6	204	49
University of North Carolina School of Medcine	Public	293	67	22.8	252	58	284	69	24.2	257	58
Ohio:											
University of Cincinnati College of Medicine	do	1,085	94	8.6	336	79	1,051	93	8.8	343	76
Western Reserve University School of Medicine	Private	1,272	91	7.1	324	73	1,372	82	5.9	325	77
Ohio State University College of Medicine	Public	508	150	29.5	567	133	567	150	26.4	572	139
Oklahoma: University of Oklahoma School of Medicine	do	275	101	36.7	373	88	262	100	38.1	372	83
Oregon: University of Oregon School of Medicine	do	382	76	19.8	293	65	480	79	16.4	292	70
Pennsylvania:											
Hahnemann Medical College	Private	1,058	108	10.2	398	97	1,152	108	9.3	394	96
Jefferson Medical College of Philadelphia	do	1,827	180	9.8	682	165	1,749	178	10.1	682	158
Temple University School of Medicine	do	1,552	137	8.8	491	114	1,535	136	8.8	495	118
University of Pennsylvania School of Medicine	do	1,500	126	8.4	503	126	1,624	128	7.8	509	126
Woman's Medical College of Pennsylvania	do	222	50	22.5	182	40	199	51	25.6	185	45
University of Pittsburgh School of Medicine	do	592	100	16.8	362	91	557	102	18.3	365	80
Puerto Rico: University of Puerto Rico School of Medicine	Public	125	52	41.6	184	41	123	53	43.0	188	45
South Carolina: Medical College of South Carolina	do	162	80	49.3	305	74	203	80	39.4	305	75

Tennessee:											
University of Tennessee College of Medicine	do	545	225	41.2	787	185	555	220	39.6	768	182
Meharry Medical College	Private	510	74	14.5	258	53	447	73	16.3	267	57
Vanderbilt University School of Medicine	do	793	54	6.8	202	53	764	53	6.9	197	46
Texas:											
University of Texas Southwestern Medical School	Public	451	106	23.5	390	91	504	104	20.6	388	90
University of Texas, Galveston	do	497	164	32.9	601	129	557	132	23.7	573	151
Baylor University College of Medicine	Private	877	82	9.3	336	90	943	86	9.1	321	78
Utah: University of Utah School of Medicine	Public	272	54	19.8	212	57	306	58	18.9	207	48
Vermont: University of Vermont College of Medicine	do	396	50	12.6	179	40	373	51	13.6	179	38
Virginia:											
University of Virginia School of Medicine	do	712	76	10.6	297	75	693	77	11.1	290	66
Medical College of Virginia	do	335	84	25.0	364	95	363	85	23.4	357	97
Washington: University of Washington School of Medicine	do	461	76	16.4	290	72	471	75	15.9	288	72
Wisconsin:											
University of Wisconsin School of Medicine	do	193	83	43.0	318	77	194	90	46.3	320	76
Marquette University School of Medicine	Private	1,013	103	10.1	397	100	1,034	105	10.0	393	96
West Virginia: West Virginia University School of Medicine.	Public	122	31	25.4	58		135	40	29.6	70	
BASIC MEDICAL SCHOOLS											
North Dakota: University of North Dakota School of Medicine.	do	99	41	41.4	80		100	40	40.0	78	
New Hampshire: Dartmouth Medical School	Private	312	24	7.6	48		320	24	7.5	48	
South Dakota: University of South Dakota School of Medicine.	Public	224	41	18.3	77		263	46	17.4	80	

TABLE I.—*Summary of application, admission, and enrollment data for each U.S. school of medicine for the 5-year period 1956–57 to 1960–61*—Continued

NOTE.—Data for University of Florida College of Medicine, Seton Hall College of Medicine, and University of Kentucky School of Medicine incomplete because they were or are newly developing schools. Data for West Virginia University School of Medicine incomplete because it is in transition from a 2- to a 4-year program]

State and medical school	Ownership	1958–59				1959–60					
		Applicants	1st year class	Percent applicants enrolled	Total enrolled (4 years)	Graduates, July 1, 1958, to June 30, 1959	Applicants	1st year class	Percent applicants enrolled	Total enrolled (4 years)	Graduates, July 1, 1959, to June 30, 1960
New York:											
Albany Medical College of Union University	Private	1,111	65	5.8	229	51	1,074	63	5.8	238	54
University of Buffalo School of Medicine	do	694	88	12.6	300	70	547	83	15.1	299	63
Albert Einstein College of Medicine	do	936	96	10.2	332	50	1,072	96	8.9	369	90
Columbia University College of Physicians and Surgeons	do	1,341	120	8.9	477	117	1,249	120	9.6	472	116
Cornell University Medical College	do	1,169	86	7.3	337	82	1,198	83	6.9	335	86
New York Medical College	do	1,679	127	7.5	496	123	1,728	128	7.4	49	112
New York University College of Medicine	do	1,372	132	9.6	526	132	1,349	133	9.8	517	128
State University of New York at New York	Public	1,218	154	12.6	570	138	1,256	155	12.3	568	134
University of Rochester School of Medicine	Private	1,084	69	6.3	262	63	1,033	72	6.9	276	59
State University of New York at Syracuse	Public	914	87	9.5	302	65	894	83	9.2	302	73
North Carolina:											
Duke University School of Medicine	Private	920	79	8.6	311	78	979	76	7.7	312	74
Bowman Gray School of Medicine	do	860	55	6.4	207	47	480	55	11.4	214	53
University of North Carolina School of Medicine	Public	327	70	21.4	264	59	239	69	28.8	266	69
Ohio:											
University of Cincinnati College of Medicine	do	997	92	9.2	342	79	996	94	9.4	352	87
Western Reserve University School of Medicine	Private	1,353	78	5.7	321	72	1,223	88	7.2	332	85
Ohio State University College of Medicine	Public	525	151	28.7	569	140	506	150	29.7	568	137
Oklahoma: University of Oklahoma School of Medicine	do	250	100	40.0	371	93	204	101	49.5	364	85
Oregon: University of Oregon School of Medicine	do	459	80	17.4	295	66	387	79	20.4	304	72
Pennsylvania:											
Hahnemann Medical College	Private	690	109	15.7	393	93	1,039	111	10.6	386	90
Jefferson Medical College of Philadelphia	do	1,599	175	10.9	677	166	1,476	177	11.9	659	163
Temple University School of Medicine	do	1,244	136	11.0	507	115	1,398	137	9.7	521	125
University of Pennsylvania School of Medicine	do	1,669	126	7.5	506	125	1,488	129	8.6	521	131
Woman's Medical College of Pennsylvania	do	207	51	24.6	180	41	220	51	23.1	185	40
University of Pittsburgh School of Medicine	do	670	101	15.0	378	80	600	108	18.0	379	97
Puerto Rico: University of Puerto Rico School of Medicine	Public	123	55	44.7	193	43	118	52	44.0	195	42
South Carolina: Medical College of South Carolina	do	205	80	39.0	299	74	182	80	43.9	299	70

Tennessee:											
University of Tennessee College of Medicine	do	759	202	26.6	658	173	769	203	26.4	760	187
Meharry Medical College	Private	362	74	20.4	269	67	355	79	22.2	264	64
Vanderbilt University School of Medicine	do	703	52	7.3	199	48	641	52	8.1	205	48
Texas:											
University of Texas Southwestern Medical School	Public	505	101	20.0	397	91	485	104	21.4	400	101
University of Texas, Galveston	do	534	143	26.8	529	132	502	148	29.4	507	140
Baylor University College of Medicine	Private	961	84	8.7	310	73	855	84	9.8	330	67
Utah: University of Utah School of Medicine	Public	312	57	18.4	206	48	313	56	17.8	203	44
Vermont: University of Vermont College of Medicine	do	320	51	15.9	185	40	375	52	13.8	184	42
Virginia:											
University of Virginia School of Medicine	do	565	76	13.5	281	68	538	76	14.1	287	65
Medical College of Virginia	do	405	85	20.9	354	94	399	84	21.0	351	95
Washington: University of Washington School of Medicine	do	423	75	17.7	291	68	415	78	18.8	288	72
Wisconsin:											
University of Wisconsin School of Medicine	do	209	101	48.8	340	71	268	88	32.8	342	73
Marquette University School of Medicine	Private	779	105	13.6	380	95	821	104	12.6	393	89
West Virginia: West Virginia University School of Medicine.	Public	114	41	35.9	74	----------	109	45	41.2	82	----------
BASIC MEDICAL SCHOOLS											
North Dakota: University of North Dakota School of Medicine.	do	82	41	50.0	75	----------	89	44	49.4	81	----------
New Hampshire: Dartmouth Medical School	Private	324	24	7.4	48	----------	279	24	8.6	48	----------
South Dakota: University of South Dakota School of Medicine.	Public	297	44	14.8	79	----------	309	44	14.2	80	----------

TABLE I.—*Summary of application, admission, and enrollment data for each U.S. school of medicine for the 5- year period 1956–57 to 1960–61*—Continued

State and medical school	Ownership	1960–61				
		Applicants	1st year class	Percent applicants enrolled	Total enrolled (4 years)	Graduates, July 1, 1960, to June 30, 1961
New York:						
Albany Medical College of Union University	Private	1,048	64	6.1	243	57
University of Buffalo School of Medicine	do	462	88	19.0	308	72
Albert Einstein College of Medicine	do	979	98	10.0	366	87
Columbia University College of Physicians and Surgeons	do	1,209	120	9.9	476	117
Cornell University Medical College	do	1,027	85	8.2	326	76
New York Medical College	do	1,681	128	7.6	506	120
New York University College of Medicine	do	1,273	130	10.2	507	128
State University of New York at New York	Public	1,160	156	13.4	575	134
University of Rochester School of Medicine	Private	913	72	7.8	285	71
State University of New York at Syracuse	Public	922	84	9.1	306	68
North Carolina:						
Duke University School of Medicine	Private	984	75	7.6	313	81
Bowman Gray School of Medicine	do	611	55	9.0	215	53
University of North Carolina School of Medicine	Public	240	69	28.7	258	60
Ohio:						
University of Cincinnati College of Medicine	do	863	98	11.3	360	83
Western Reserve University School of Medicine	Private	1,080	87	8.1	327	78
Ohio State University College of Medicine	Public	506	151	29.8	561	129
Oklahoma: University of Oklahoma School of Medicine	do	233	104	44.6	374	83
Oregon: University of Oregon School of Medicine	do	386	80	20.7	300	61
Pennsylvania:						
Hahnemann Medical College	Private	891	111	12.4	384	93
Jefferson Medical College of Philadelphia	do	1,326	176	13.2	645	167
Temple University School of Medicine	do	1,343	137	10.2	519	125
University of Pennsylvania School of Medicine	do	1,341	127	9.4	518	130
Woman's Medical College of Pennsylvania	do	226	63	27.8	201	40
University of Pittsburgh School of Medicine	do	630	101	16.0	373	91
Puerto Rico: University of Puerto Rico School of Medicine	Public	119	55	46.2	198	45
South Carolina: Medical College of South Carolina	do	170	80	47.0	303	72
Sennessee:						
University of Tennessee College of Medicine	do	734	204	27.7	759	177
Meharry Medical College	Private	370	71	19.1	263	54
Vanderbilt University School of Medicine	do	585	54	9.2	200	51
Texas:						
University of Texas Southwestern Medical School	Public	447	100	22.3	395	101
University of Texas, Galveston	do	461	144	31.2	475	101
Baylor University College of Medicine	Private	655	85	12.9	348	86
Utah: University of Utah School of Medicine	Public	322	55	17.0	203	48

Vermont: University of Vermont College of Medicine	do	351	51	14.5	189	43
Virginia:						
University of Virginia School of Medicine	do	506	77	15.2	292	74
Medical College of Virginia	do	327	85	25.9	331	89
Washington: University of Washington School of Medicine	do	433	77	17.7	289	66
Wisconsin:						
University of Wisconsin School of Medicine	do	274	92	33.5	340	83
Marquette University School of Medicine	Private	787	102	12.9	392	93
West Virginia: West Virginia University School of Medicine	Public	91	46	50.5	109	
BASIC MEDICAL SCHOOLS						
North Dakota: University of North Dakota School of Medicine	do	87	42	48.2	80	
New Hampshire: Dartmouth Medical School	Private	231	24	10.3	47	
South Dakota: University of South Dakota School of Medicine	Public	293	45	15.3	75	

TABLE II.—*Summary of attrition rates for all U.S. schools of medicine for the 5-year period 1955–56 to 1959–60*

Academic year	Number of 1st year students	Number of dropouts	Percent of dropout	Total enrollment (4 classes)	Percent of dropout	Academic year	Number of 1st year students	Number of dropouts	Percent of dropout	Total enrollment (4 classes)	Percent of dropout
1955–56	7,742	483	6.23	28,748	2.73	1958–59	8,128	565	6.95	29,614	2.84
1956–57	8,014	510	6.36	29,130	3.03	1959–60	8,173	541	6.61	30,084	3.36
1957–58	8,030	598	7.44	29,473	3.84						

TABLE III.—*Summary of attrition rates for each U.S. school of medicine for the 5-year period 1955–56 to 1959–60*

[NOTE.—Data for the University of Florida College of Medicine, Seton Hall College of Medicine, and University of Kentucky School of Medicine incomplete because they were or are newly developing schools. Data for West Virginia School of Medicine incomplete because it is in transition from a 2- to a 4-year program]

State and medical school	Ownership	1955–56						
		1st year, 1955	2d year, 1956	Number dropout	Percent dropout	Total enrollment, 1955	Total, 1956	Total percent dropout
Alabama: Medical College of Alabama	Public	81	77	4	4.9	296	291	1.6
Arkansas: University of Arkansas	do	93	77	16	17.2	317	303	4.4
California:								
Loma Linda University	Private	99	84	15	15.1	385	362	5.9
University of California, Los Angeles	Public	50	50	0	0	168	166	1.2
University of Southern California	Private	69	68	1	1.4	271	266	1.8
Stanford University	do	58	58	0	0	236	232	1.6
University of California, San Francisco	Public	77	76	1	1.2	314	313	.3
Colorado: University of Colorado	do	86	86	0	0	315	310	1.5
Connecticut: Yale University	Private	79	80	+1	−1.2	316	313	.9
District of Columbia:								
Georgetown University	do	115	96	19	16.5	441	420	4.7
George Washington University	do	102	92	10	9.8	372	358	3.7
Howard University	do	79	78	1	1.2	289	287	.7
Florida:								
University of Florida	Public							
University of Miami	Private	73	69	4	5.4	198	191	3.5

Georgia:								
Emory University	do	73	71	2	2.7	284	283	.3
Medical College of Georgia	Public	101	98	3	2.9	352	341	3.1
Illinois:								
Chicago Medical	Private	73	68	5	6.8	283	276	2.4
Northwestern University	do	133	128	5	3.7	523	521	.3
Stritch (Loyola University)	do	88	88	0	0	325	321	1.2
University of Chicago	do	72	73	+1	−1.3	286	286	0
University of Illinois	Public	167	154	13	7.7	636	618	2.8
Indiana: Indiana University	do	155	141	14	9.0	586	565	3.5
Iowa: State University of Iowa	do	120	102	18	15.0	441	421	4.5
Kansas: University of Kansas	do	101	96	5	4.9	428	431	−.7
Kentucky:								
University of Kentucky	do							
University of Louisville	Private	97	89	8	8.2	379	368	2.9
Louisiana:								
Louisiana State University	Public	126	108	18	14.2	426	399	6.3
Tulane University	Private	131	120	11	8.4	511	496	2.9
Maryland:								
Johns Hopkins University	do	74	73	1	1.3	286	284	.6
University of Maryland	Public	96	93	3	3.1	375	369	1.6
Massachusetts:								
Boston University	Private	73	66	7	9.5	284	280	1.4
Harvard Medical College	do	118	118	0	0	530	551	−3.9
Tufts University	do	111	105	6	5.4	443	440	.6
Michigan:								
University of Michigan	Public	206	193	13	6.3	762	749	1.7
Wayne State University	do	76	71	5	6.5	281	271	3.6
Minnesota: University of Minnesota	do	128	119	9	7.0	481	459	4.5
Mississippi: University of Mississippi	do	80	69	11	13.7	162	138	14.8
Missouri:								
University of Missouri	do	45	39	6	13.3	113	95	15.9
St. Louis University	Private	127	125	2	1.5	479	472	1.4
Washington University, St. Louis	do	87	81	6	6.8	359	360	−.2
Nebraska:								
Creighton University	do	76	76	0	0	297	288	3.0
University of Nebraska	Public	87	72	15	17.2	331	314	5.1
New Jersey: Seton Hall	Private							

TABLE III.—*Summary of attrition rates for each U.S. school of medicine for the 5-year period 1955–56 to 1959–60*—Continued

[NOTE.—Data for the University of Florida College of Medicine, Seton Hall College of Medicine, and University of Kentucky School of Medicine incomplete because they were or are newly developing schools. Data for West Virginia School of Medicine incomplete because it is in transition from a 2- to a 4-year program]

State and medical school	Ownership	1956–57						
		1st year, 1956	2d year, 1957	Number dropout	Percent dropout	Total enrollment, 1956	Total, 1957	Total percent dropout
Alabama: Medical College of Alabama	Public	81	71	10	12.3	299	279	6.6
Arkansas: University of Arkansas	do	100	93	7	7.0	341	329	3.5
California:								
Loma Linda University	Private	98	94	4	4.0	376	370	1.5
University of California, Los Angeles	Public	50	50	0	0	180	182	−1.1
University of Southern California	Private	68	67	1	1.4	266	265	.4
Stanford University	do	62	61	1	1.6	232	229	1.3
University of California, San Francisco	Public	78	81	+3	−3.8	312	319	−2.2
Colorado: University of Colorado	do	84	70	14	16.6	322	303	5.9
Connecticut: Yale University	Private	80	80	0	0	322	310	3.7
District of Columbia:								
Georgetown University	do	114	106	8	7.0	424	413	2.5
George Washington University	do	102	101	1	.9	372	370	.5
Howard University	do	78	73	5	6.4	297	289	2.6
Florida:								
University of Florida	Public	47	41	6	12.7	47	41	12.7
University of Miami	Private	71	64	7	9.8	236	220	6.7
Georgia:								
Emory University	Private	74	71	3	4.0	286	278	2.8
Medical College of Georgia	Public	102	95	7	6.8	376	361	3.9
Illinois:								
Chicago Medical	Private	74	71	3	4.0	277	268	3.2
Northwestern University	do	133	123	10	7.5	520	515	.9
Stritch (Loyola University)	do	88	86	2	2.2	330	331	−.3
University of Chicago	do	72	73	+1	−1.3	287	285	.7
University of Illinois	Public	191	179	12	6.2	644	633	1.7
Indiana: Indiana University	do	159	146	13	8.1	583	564	3.2
Iowa: State University of Iowa	do	122	110	12	9.8	433	411	5.0
Kansas: University of Kansas	do	104	96	8	7.6	415	417	−.4
Kentucky:								
University of Kentucky	do							
University of Louisville	Private	104	97	7	6.7	379	369	2.6
Louisiana:								
Louisiana State University	Public	125	103	22	17.6	428	405	5.3
Tulane University	Private	134	121	13	9.7	506	493	2.5
Maryland:								
Johns Hopkins University	do	78	71	7	8.9	293	286	2.3
University of Maryland	Public	93	99	+6	−6.4	363	356	1.9

Massachusetts:								
Boston University	Private	76	78	+2	−2.6	286	286	0
Harvard Medical College	do	115	115	0	0	515	543	−5.4
Tufts University	do	112	102	10	8.9	441	429	2.7
Michigan:								
University of Michigan	Public	202	183	19	9.4	762	730	4.1
Wayne State University	do	77	68	9	11.6	285	272	4.5
Minnesota: University of Minnesota	do	130	124	6	4.6	474	467	1.4
Mississippi: University of Mississippi	do	76	66	10	13.1	214	197	7.9
Missouri:								
University of Missouri	do	75	65	10	13.3	170	152	10.5
St. Louis University	Private	123	110	13	10.5	481	458	4.7
Washington University, St. Louis	do	86	82	4	4.6	347	351	−1.1
Nebraska:								
Creighton University	do	76	67	9	11.8	287	275	4.1
University of Nebraska	Public	87	82	5	5.7	318	317	.3
New Jersey: Seton Hall	Private	80	77	3	3.7	80	77	3.7

TABLE III.—*Summary of attrition rates for each U.S. school of medicine for the 5-year period, 1955–56 to 1959–60*—Continued

[NOTE.—Data for the University of Florida College of Medicine, Seton Hall College of Medicine, and University of Kentucky School of Medicine incomplete because they were or are newly developing schools. Data for West Virginia School of Medicine incomplete because it is in transition from a 2- to a 4-year program]

State and medical school	Ownership	1957–58						
		1st year, 1957	2d year, 1958	Number dropout	Percent dropout	Total enrollment, 1957	Total, 1958	Total percent dropout
Alabama: Medical College of Alabama	Public	81	80	1	1.2	289	284	1.7
Arkansas: University of Arkansas	do	93	85	8	8.6	345	329	4.6
California:								
Loma Linda University	Private	112	91	21	18.7	384	353	8.0
University of California, Los Angeles	Public	49	54	+5	−10.2	195	199	−2.0
University of Southern California	Private	67	62	5	7.4	264	252	4.5
Stanford University	do	62	62	0	0	234	230	1.7
University of California, San Francisco	Public	79	74	5	6.3	324	320	1.2
Colorado: University of Colorado	do	85	76	9	10.5	318	310	2.5
Connecticut: Yale University	Private	79	81	+2	−2.5	309	307	.6
District of Columbia:								
Georgetown University	do	108	96	12	11.1	407	392	3.6
George Washington University	do	101	97	4	3.9	383	378	1.3
Howard University	do	103	86	17	16.5	320	299	6.5
Florida:								
University of Florida	Public	51	47	4	7.8	92	87	5.4
University of Miami	Private	79	73	6	7.6	265	247	6.7
Georgia:								
Emory University	do	74	70	4	5.4	278	276	.7
Medical College of Georgia	Public	103	91	12	11.6	386	361	6.4
Illinois:								
Chicago Medical	Private	73	68	5	6.8	275	267	2.9
Northwestern University	do	130	122	8	6.1	519	520	−.2
Stritch (Loyola University)	do	88	80	8	9.0	337	325	3.5
University of Chicago	do	72	74	+2	−2.7	288	287	.3
University of Illinois	Public	190	180	10	5.2	677	656	3.1
Indiana: Indiana University	do	158	148	10	6.3	583	563	3.4
Iowa: State University of Iowa	do	120	110	10	8.3	434	421	2.9
Kansas: University of Kansas	do	102	100	2	1.9	412	411	.2
Kentucky:								
University of Kentucky	do							
University of Louisville	Private	103	92	11	10.6	382	365	4.4
Louisiana:								
Louisiana State University	Public	125	105	20	16.0	434	409	5.7
Tulane University	Private	134	121	13	9.7	503	488	2.9
Maryland:								
Johns Hopkins University	do	74	72	2	2.7	293	283	3.4
University of Maryland	Public	93	95	+2	−2.1	355	341	3.9

Massachusetts:								
Boston University	Private	74	71	3	4.0	291	282	3.0
Harvard Medical College	do	114	110	4	3.5	512	537	−4.8
Tufts University	do	114	110	4	3.5	430	427	.7
Michigan:								
University of Michigan	Public	206	180	26	12.6	750	716	4.5
Wayne State University	do	75	73	2	2.6	282	275	2.4
Minnesota: University of Minnesota	do	131	123	8	6.1	489	478	2.2
Mississippi: University of Mississippi	do	80	68	12	15.0	253	238	5.9
Missouri:								
University of Missouri	do	75	69	6	8.0	206	190	7.7
St. Louis University	Private	121	109	12	9.9	467	442	5.3
Washington University, St. Louis	do	86	83	3	3.4	344	343	.3
Nebraska:								
Creighton University	do	77	64	13	16.8	283	264	6.7
University of Nebraska	Public	87	75	12	13.7	327	314	3.9
New Jersey: Seton Hall	Private	80	73	7	8.7	157	144	8.2

TABLE III.—*Summary of attrition rates for each U.S. school of medicine for the 5-year period, 1955–56 to 1959–60*—Continued

State and medical school	Ownership	1958–59						
		1st year, 1958	2d year, 1959	Number dropout	Percent dropout	Total enrollment, 1958	Total, 1959	Total percent dropout
Alabama: Medical College of Alabama	Public	81	71	10	12.8	297	284	4.3
Arkansas: University of Arkansas	do	95	80	15	15.7	339	320	5.6
California:								
Loma Linda University	Private	114	99	15	13.1	371	357	3.7
University of California, Los Angeles	Public	56	57	+1	−1.7	208	207	.4
University of Southern California	Private	68	70	+2	−2.9	260	269	−3.4
Stanford University	do	61	59	2	3.2	237	228	3.8
University of California, San Francisco	Public	101	101	0	0	338	337	.3
Colorado: University of Colorado	do	86	80	6	6.9	317	308	2.8
Connecticut: Yale University	Private	81	81	0	0	316	302	4.4
District of Columbia:								
Georgetown University	do	112	97	15	13.3	404	384	4.9
George Washington University	do	101	96	5	4.9	389	381	2.0
Howard University	do	105	96	9	8.5	337	325	3.5
Florida:								
University of Florida	Public	50	45	5	10.0	137	127	7.2
University of Miami	Private	75	68	7	9.3	262	251	4.1
Georgia:								
Emory University	do	74	72	2	2.7	284	281	1.0
Medical College of Georgia	Public	102	91	11	10.7	370	351	5.1
Illinois:								
Chicago Medical	Private	72	64	8	11.1	274	262	4.3
Northwestern University	do	132	126	6	4.5	521	523	−.3
Stritch (Loyola University)	do	88	75	13	14.7	340	324	4.7
University of Chicago	do	73	74	+1	−1.3	290	295	−1.7
University of Illinois	Public	201	184	17	8.4	707	684	3.2
Indiana: Indiana University	do	160	142	18	11.2	585	559	4.4
Iowa: State University of Iowa	do	120	109	11	9.1	437	416	4.8
Kansas: University of Kansas	do	98	95	3	3.0	402	393	2.2
Kentucky:								
University of Kentucky	do							
University of Louisville	Private	100	98	2	2.0	370	362	2.1
Louisiana:								
Louisiana State University	Public	129	111	18	13.9	443	419	5.4
Tulane University	Private	134	129	5	3.7	494	485	1.2

Maryland:								
Johns Hopkins University	do	74	76	+2	−2.7	282	276	2.1
University of Maryland	Public	100	98	2	2.0	363	352	3.0
Massachusetts:								
Boston University	Private	74	74	0	0	285	278	2.4
Harvard Medical College	do	114	111	3	2.6	516	536	−3.8
Tufts University	do	114	111	3	2.6	432	428	.9
Michigan:								
University of Michigan	Public	197	168	29	14.7	744	710	4.5
Wayne State University	do	125	114	11	8.8	328	315	3.9
Minnesota: University of Minnesota	do	139	130	9	6.4	504	486	3.5
Mississippi: University of Mississippi	do	78	69	9	11.5	272	256	5.8
Missouri:								
University of Missouri	do	76	76	0	0	234	228	2.5
St. Louis University	Private	126	113	13	10.3	451	423	6.2
Washington University, St. Louis	do	86	85	1	1.1	342	345	.8
Nebraska:								
Creighton University	do	77	73	4	5.1	277	264	4.6
University of Nebraska	Public	81	73	8	9.8	312	301	3.5
New Jersey: Seton Hall	Private	80	74	6	7.5	224	218	2.6

TABLE III.—*Summary of attrition rates for each U.S. school of medicine for the 5-year period, 1955–56 to 1959–60*—Continued

State and medical school	Ownership	1959-60						
		1st year, 1959	2d year, 1960	Number dropout	Percent dropout	Total enrollment, 1959	Total, 1960	Total percent dropout
Alabama: Medical College of Alabama	Public	80	77	3	3.7	300	291	3.0
Arkansas: University of Arkansas	do	92	83	9	9.7	343	330	3.8
California:								
Loma Linda University	Private	105	100	5	4.7	381	362	4.9
University of California, Los Angeles	Public	57	57	0	0	218	216	.9
University of Southern California	Private	69	66	3	4.3	272	273	−.3
Stanford University	do	71	63	8	11.2	242	231	4.5
University of California, San Francisco	Public	101	98	3	2.9	358	353	1.3
Colorado: University of Colorado	Public	85	85	0	0	312	313	.3
Connecticut: Yale University	Private	80	82	+2	−2.5	303	303	0
District of Columbia:								
Georgetown University	do	113	95	18	15.9	404	382	5.4
George Washington University	do	102	97	5	4.9	392	384	2.0
Howard University	do	105	107	+2	−1.9	355	332	6.4
Florida:								
University of Florida	Public	49	41	8	16.3	177	166	6.2
University of Miami	Private	81	73	8	9.8	273	260	4.7
Georgia:								
Emory University	do	77	76	1	1.2	293	283	3.4
Medical College of Georgia	Public	102	96	6	5.8	365	350	4.1
Illinois:								
Chicago Medical	Private	73	66	7	9.5	267	252	5.6
Northwestern University	do	130	130	0	0	520	521	−.2
Stritch (Loyola University)	do	88	83	5	5.6	326	312	4.2
University of Chicago	do	73	68	5	6.8	299	295	1.3
University of Illinois	Public	200	191	9	4.5	731	711	2.7
Indiana: Indiana University	do	182	155	27	14.8	601	568	5.4
Iowa: State University of Iowa	do	120	115	5	4.1	436	427	2.0
Kansas: University of Kansas	do	101	95	6	5.9	393	382	2.8
Kentucky:								
University of Kentucky	do							
University of Louisville	Private	99	88	11	11.1	375	353	5.8
Louisiana:								
Louisiana State University	Public	128	114	14	10.9	437	413	5.4
Tulane University	Private	132	117	15	11.3	499	484	3.0
Maryland:								
Johns Hopkins University	do	78	76	2	2.5	286	284	.6
University of Maryland	Public	100	93	7	7.0	369	363	1.6

Massachusetts:								
Boston University	Private	72	75	+3	−4.1	284	282	.7
Harvard Medical College	do	116	115	1	.8	505	508	−.5
Tufts University	do	114	110	4	3.5	438	431	1.5
Michigan:								
University of Michigan	Public	196	175	21	10.7	720	700	2.7
Wayne State University	do	126	112	14	11.1	375	355	5.3
Minnesota: University of Minnesota	do	141	126	15	10.6	514	488	5.0
Mississippi: University of Mississippi	do	80	69	11	13.7	274	256	6.5
Missouri:								
University of Missouri	do	75	71	4	5.3	272	258	5.1
St. Louis University	Private	113	105	8	7.0	420	400	4.7
Washington University, St. Louis	do	86	78	8	9.3	343	333	2.9
Nebraska:								
Creighton University	do	77	77	0	0	271	262	3.3
University of Nebraska	Public	85	80	5	5.8	314	309	1.8
New Jersey: Seton Hall	Private	81	74	7	8.6	299	287	4.0

TABLE III.—*Summary of attrition rates for each U.S. school of medicine for the 5-year period, 1955–56 to 1959–60*—Continued

State and medical school	Ownership	1955–56						
		1st year, 1955	2d year, 1956	Number dropout	Percent dropout	Total enrollment, 1955	Total, 1956	Total percent dropout
New York:								
Albany of Union University	Private	64	53	11	17.1	221	210	4.9
University of Buffalo	do	85	74	11	12.9	296	278	6.0
Einstein of Yeshiva University	do	56	55	1	1.7	56	55	1.7
Columbia University	do	119	122	+3	−2.5	462	470	−1.7
Cornell University	do	84	83	1	1.2	338	335	.8
New York Medical	do	128	128	0	0	476	466	2.1
New York University	do	131	129	2	1.5	527	528	−.2
State University of New York, New York	Public	151	141	10	6.6	587	578	1.5
University of Rochester	Private	71	69	2	2.8	273	272	.3
State University of New York, Syracuse	Public	80	74	6	7.5	286	280	2.1
North Carolina:								
Duke University	Private	77	78	+1	−1.3	314	321	−2.2
Bowman Gray of Wake Forest	do	54	51	3	5.5	204	202	.9
University of North Carolina	Public	68	66	2	2.9	249	244	2.0
Ohio:								
University of Cincinnati	do	93	86	7	7.5	338	327	3.2
Western Reserve University	Private	83	80	3	3.6	322	311	3.4
Ohio State University	Public	151	144	7	4.6	573	561	2.0
Oklahoma: University of Oklahoma	do	101	97	4	3.9	379	368	2.9
Oregon: University of Oregon	do	77	73	4	5.1	295	288	2.3
Pennsylvania:								
Hahnemann	Private	109	97	12	11.0	399	385	3.5
Jefferson Medical	do	176	175	1	.6	677	673	.6
Temple University	do	128	120	8	6.2	488	479	1.8
University of Pennsylvania	do	125	122	3	2.4	500	501	−.2
Woman's Medical	do	51	46	5	9.8	182	172	5.5
University of Pittsburgh	do	100	87	13	13.0	363	349	3.8
Puerto Rico: University of Puerto Rico	Public	52	46	6	11.5	184	175	4.9
South Carolina: Medical College of South Carolina	do	79	75	4	5.0	296	292	1.3
Tennessee:								
University of Tennessee	do	217	194	13	6.0	781	761	2.5
Meharry	Private	75	64	11	14.6	259	246	5.0
Vanderbilt University	do	51	48	3	5.8	204	199	2.4
Texas:								
Southwestern	Public	102	94	8	7.8	394	382	3.0
University of Texas	do	166	148	18	10.8	614	588	4.2
Baylor University	Private	87	82	5	5.7	342	331	3.2

Utah: University of Utah	Public	54	54	0	0	209	198	5.2
Vermont: University of Vermont	do	50	48	2	4.0	180	173	3.9
Virginia:								
University of Virginia	do	77	74	3	3.8	289	282	2.4
Medical College of Virginia	do	84	83	1	1.2	366	378	-3.2
Washington: University of Washington	do	77	69	8	10.4	288	282	2.1
West Virginia: University of West Virginia	do	31	27	4	12.9	60	27	55.0
Wisconsin:								
University of Wisconsin	do	87	81	6	6.8	325	314	3.4
Marquette	Private	102	96	6	5.9	394	381	3.3
BASIC MEDICAL SCHOOLS								
New Hampshire: Dartmouth	do	25	24	1	4.0			
North Dakota: University of North Dakota	Public	40	39	1	2.5			
South Dakota: University of South Dakota	do	42	36	6	14.2			

TABLE III.—*Summary of attrition rates for each U.S. school of medicine for the 5-year period, 1955–56 to 1959–60*—Continued

State and medical school	Ownership	1956–57						
		1st year, 1956	2d year, 1957	Number dropout	Percent dropout	Total enrollment, 1956	Total, 1957	Total percent dropout
New York:								
Albany of Union University	Private	68	55	13	19.1	230	215	6.5
University of Buffalo	do	84	72	12	14.2	300	285	5.0
Einstein of Yeshiva University	do	96	96	0	0	151	153	−1.3
Columbia University	do	120	117	3	2.5	472	464	1.7
Cornell University	do	84	86	+2	−2.3	335	336	−.3
New York Medical	do	128	130	+2	−1.5	486	478	1.6
New York University	do	136	131	5	3.6	522	512	1.9
State University of New York, New York	Public	155	148	7	4.5	587	581	1.0
University of Rochester	Private	71	69	2	2.8	279	277	.7
State University of New York, Syracuse	Public	79	75	4	5.0	288	277	3.8
North Carolina:								
Duke University	Private	78	76	2	2.5	319	316	.9
Bowman Gray of Wake Forest	do	54	51	3	5.5	209	205	1.9
University of North Carolina	Public	67	69	+2	−2.9	252	246	2.4
Ohio:								
University of Cincinnati	do	94	91	3	3.2	336	329	2.0
Western Reserve University	Private	91	86	5	5.4	324	316	2.4
Ohio State University	Public	150	142	8	5.3	567	555	2.1
Oklahoma: University of Oklahoma	do	101	95	6	5.9	373	360	3.5
Oregon: University of Oregon	do	76	65	11	14.4	293	278	5.1
Pennsylvania:								
Hahnemann	Private	108	96	12	11.1	398	383	3.7
Jefferson Medical	do	180	167	13	7.2	682	669	1.9
Temple University	do	137	121	16	11.6	491	473	3.6
University of Pennsylvania	do	126	125	1	.7	503	507	−.7
Woman's Medical	do	50	47	3	6.0	182	174	4.4
University of Pittsburgh	do	100	97	3	3.0	362	354	2.2
Puerto Rico: University of Puerto Rico	Public	52	44	8	15.3	184	176	4.3
South Carolina: Medical College of South Carolina	do	80	75	5	6.2	305	299	1.9
Tennessee:								
University of Tennessee	do	225	196	29	12.8	787	733	6.8
Meharry	Private	74	66	8	10.8	258	247	4.2
Vanderbilt University	do	54	50	4	7.4	202	197	2.4
Texas:								
Southwestern	Public	106	96	10	9.4	390	375	3.8
University of Texas	do	164	154	10	6.1	601	570	5.1
Baylor University	Private	82	82	0	0	336	325	3.2

Utah: University of Utah	Public	54	52	2	3.7	212	206	2.8
Vermont: University of Vermont	do	50	49	1	2.0	179	168	6.1
Virginia:								
University of Virginia	do	76	72	4	5.2	297	288	3.0
Medical College of Virginia	do	84	79	5	5.9	364	367	−.8
Washington: University of Washington	do	76	69	7	9.2	290	285	1.7
West Virginia: University of West Virginia	do	31	30	1	3.2	58	30	48.2
Wisconsin:								
University of Wisconsin	do	83	82	1	1.2	318	307	3.4
Marquette	Private	103	93	10	9.7	397	388	2.2
BASIC MEDICAL SCHOOLS								
New Hampshire: Dartmouth	Private	24	24	0	0			
North Dakota: University of North Dakota	Public	41	38	3	7.3			
South Dakota: University of South Dakota	do	41	34	7	17.0			

TABLE III.—*Summary of attrition rates for each U.S. school of medicine for the 5-year period, 1955–56 to 1959–60*—Continued

State and medical school	Ownership	1957–58						
		1st year, 1957	2d year, 1958	Number dropout	Percent dropout	Total enrollment, 1957	Total, 1958	Total percent dropout
New York:								
Albany of Union University	Private	63	59	4	6.3	229	224	2.1
University of Buffalo	do	84	76	8	9.5	304	290	4.6
Einstein of Yeshiva University	do	98	95	3	3.0	251	236	5.9
Columbia University	do	120	120	0	0	470	471	−.1
Cornell University	do	84	81	3	3.5	334	332	.6
New York Medical	do	128	128	0	0	497	484	2.6
New York University	do	134	130	4	2.9	519	519	0
State University of New York, New York	Public	153	135	18	11.7	489	561	4.7
University of Rochester	Private	71	70	1	1.4	283	266	6.0
State University of New York, Syracuse	Public	86	73	13	15.1	300	286	4.6
North Carolina:								
Duke University	Private	79	75	4	5.0	315	313	.6
Bowman Gray of Wake Forest	do	54	53	1	1.8	204	201	1.4
University of North Carolina	Public	69	64	5	7.2	257	252	1.9
Ohio:								
University of Cincinnati	do	93	82	11	11.8	343	326	4.9
Western Reserve University	Private	82	80	2	2.4	325	320	1.5
Ohio State University	Public	150	141	9	6.0	572	557	2.6
Oklahoma: University of Oklahoma	do	100	92	8	8.0	372	354	4.8
Oregon: University of Oregon	do	79	73	6	7.5	292	285	2.4
Pennsylvania:								
Hahnemann	Private	108	97	11	10.2	394	380	3.5
Jefferson Medical	do	178	164	14	7.8	682	660	3.2
Temple University	do	136	129	7	5.1	495	489	1.2
University of Pennsylvania	do	128	122	6	4.6	509	506	.5
Woman's Medical	do	51	46	5	9.8	185	174	5.9
University of Pittsburgh	do	102	98	4	3.9	365	357	2.2
Puerto Rico: University of Puerto Rico	Public	53	48	5	9.4	188	183	2.6
South Carolina: Medical College of South Carolina	do	80	73	7	8.7	305	294	3.6
Tennessee:								
University of Tennessee	do	220	189	31	14.1	768	638	16.9
Meharry	Private	73	59	14	19.1	267	252	5.6
Vanderbilt University	do	53	51	2	3.7	197	193	2.0

Texas:								
Southwestern	Public	104	98	6	5.7	388	386	.5
University of Texas	do	132	112	20	15.1	573	537	6.3
Baylor University	Private	86	84	2	2.3	321	304	5.3
Utah: University of Utah	Public	58	55	3	5.1	207	197	4.8
Vermont: University of Vermont	do	51	50	1	1.9	179	172	3.9
Virginia:								
University of Virginia	do	77	71	6	7.8	290	271	6.5
Medical College of Virginia	do	85	78	7	8.2	357	366	−2.5
Washington: University of Washington	do	75	74	1	1.3	288	288	0
West Virginia: University of West Virginia	do	40	33	13	32.5	70	33	52.8
Wisconsin:								
University of Wisconsin	do	90	93	+3	−3.3	320	315	1.5
Marquette	Private	105	87	18	17.1	393	371	5.6
BASIC MEDICAL SCHOOLS								
New Hampshire: Dartmouth	do	24	24	0	0			
North Dakota: University of North Dakota	Public	40	34	6	15.0			
South Dakota: University of South Dakota	do	46	35	11	23.9			

TABLE III.—*Summary of attrition rates for each U.S. school of medicine for the 5-year period, 1955–56 to 1959–60*—Continued

[NOTE.—Data for the University of Florida College of Medicine, Seton Hall College of Medicine, and University of Kentucky School of Medicine incomplete because they were or are newly developing schools. Data for West Virginia School of Medicine incomplete because it is in transition from a 2- to a 4-year program

State and medical school	Ownership	1958–59						
		1st year, 1958	2d year, 1959	Number dropout	Percent dropout	Total enrollment, 1958	Total, 1959	Total percent dropout
New York:								
Albany of Union University	Private	65	63	2	3.0	229	226	1.3
University of Buffalo	do	88	79	9	10.2	300	286	4.6
Einstein of Yeshiva University	do	96	94	2	2.0	332	323	2.7
Columbia University	do	120	118	2	1.6	477	469	1.6
Cornell University	do	86	83	3	3.4	337	334	.9
New York Medical	do	127	128	+1	−.7	496	485	2.2
New York University	do	132	130	2	1.5	526	516	1.9
State University of New York, New York	Public	154	143	11	7.1	570	551	3.3
University of Rochester	Private	69	68	1	1.4	262	267	−1.9
State University of New York, Syracuse	Public	87	74	13	14.9	302	284	5.9
North Carolina:								
Duke University	Private	79	78	1	1.2	311	314	−.9
Bowman Gray of Wake Forest	do	55	51	4	7.2	207	206	.4
University of North Carolina	Public	70	64	6	8.5	264	256	3.0
Ohio:								
University of Cincinnati	do	92	86	6	6.5	342	337	1.4
Western Reserve University	Private	78	79	+1	−1.3	321	316	1.5
Ohio State University	Public	151	151	0	0	569	557	2.1
Oklahoma: University of Oklahoma	do	100	91	9	9.0	371	356	4.0
Oregon: University of Oregon	do	80	75	5	6.2	295	291	1.3
Pennsylvania:								
Hahnemann	Private	109	89	20	18.3	393	368	6.3
Jefferson Medical	do	175	150	25	14.3	677	648	4.2
Temple University	do	136	130	6	4.4	507	499	1.5
University of Pennsylvania	do	126	127	+1	−.8	506	517	−2.1
Woman's Medical	do	51	52	+1	−1.9	180	175	2.7
University of Pittsburgh	do	101	80	21	20.8	378	351	7.1
Puerto Rico: University of Puerto Rico	Public	55	51	4	7.2	193	186	3.6
South Carolina: Medical College of South Carolina	do	80	73	7	8.7	299	291	2.6
Tennessee:								
University of Tennessee	do	202	193	9	4.4	658	730	−10.9
Meharry	Private	74	61	13	17.5	269	252	6.3
Vanderbilt University	do	52	53	+1	−1.9	199	201	−1.0

Texas:								
Southwestern	Public	101	92	9	9.0	397	387	2.5
University of Texas	do	143	111	32	22.3	529	491	7.2
Baylor University	Private	84	92	+8	−9.5	310	319	−2.9
Utah: University of Utah	Public	57	53	4	7.0	206	195	5.3
Vermont: University of Vermont	do	51	45	6	11.7	185	172	7.0
Virginia:								
University of Virginia	do	76	68	8	10.5	281	279	.7
Medical College of Virginia	do	85	75	10	11.7	354	361	−1.9
Washington: University of Washington	do	75	66	9	12.0	291	278	4.4
West Virginia: University of West Virginia	do	41	37	4	9.7	74	37	50.0
Wisconsin:								
University of Wisconsin	do	101	93	8	7.9	340	325	4.4
Marquette	Private	105	104	1	.9	380	384	−1.0
BASIC MEDICAL SCHOOLS								
New Hampshire: Dartmouth	do	24	24	0	0			
North Dakota: University of North Dakota	Public	41	37	4	9.7			
South Dakota: University of South Sakota	do	44	36	8	18.1			

TABLE III.—*Summary of attrition rates for each U.S. school of medicine for the 5-year period, 1955–56 to 1959–60*—Continued

[NOTE.—Data for the University of Florida College of Medicine, Seton Hall College of Medicine, and University of Kentucky School of Medicine incomplete because they were or are newly developing schools. Data for West Virginia School of Medicine incomplete because it is in transition from a 2- to a 4-year program]

State and medical school	Ownership	1959–60						
		1st year, 1959	2d year, 1960	Number dropout	Percent dropout	Total enrollment, 1959	Total, 1960	Total percent dropout
New York:								
Albany of Union University	Private	63	60	3	4.7	238	233	2.1
University of Buffalo	do	83	76	7	8.4	299	283	5.3
Einstein of Yeshiva University	do	96	90	6	6.2	369	358	2.9
Columbia University	do	120	119	1	.8	472	472	0
Cornell University	do	83	79	4	4.8	335	327	2.3
New York Medical	do	128	126	2	1.5	490	490	0
New York University	do	133	128	5	3.7	517	505	2.3
State University of New York, New York	Public	155	139	16	10.3	568	553	2.6
University of Rochester	Private	72	72	0	0	276	272	1.4
State University of New York, Syracuse	Public	83	79	4	4.8	302	295	2.3
North Carolina:								
Duke University	Private	76	77	+1	−1.3	312	312	0
Bowman Gray of Wake Forest	do	55	56	+1	−1.8	214	213	.4
University of North Carolina	Public	69	64	5	7.2	266	258	3.0
Ohio:								
University of Cincinnati	do	94	92	2	2.1	352	349	.8
Western Reserve University	Private	88	83	5	5.7	332	325	2.1
Ohio State University	Public	150	140	10	6.6	567	547	3.5
Oklahoma: University of Oklahoma	do	101	93	8	7.9	364	355	2.4
Oregon: University of Oregon	do	79	72	7	8.8	304	292	3.9
Pennsylvania:								
Hahnemann	Private	111	98	13	11.7	386	363	5.9
Jefferson Medical	do	177	154	23	12.9	659	632	4.0
Temple University	do	137	127	10	7.3	521	507	2.7
University of Pennsylvania	do	129	125	4	3.1	521	522	−.2
Woman's Medical	do	51	50	1	1.9	185	178	3.8
University of Pittsburgh	do	108	101	7	6.4	379	369	2.6
Puerto Rico: University of Puerto Rico	Public	52	46	6	11.5	195	185	5.1
South Carolina: Medical College of South Carolina	do	80	76	4	5.0	299	293	2.0
Tennessee:								
University of Tennessee	do	203	200	3	1.4	760	742	2.3
Meharry	Private	79	76	3	3.8	264	256	3.0
Vanderbilt University	do	52	44	8	15.4	205	194	5.3
Texas:								
Southwestern	Public	104	93	11	10.5	400	396	1.0
University of Texas	do	148	121	27	18.2	507	471	7.1
Baylor University	Private	84	89	+5	−5.9	330	330	0

Utah: University of Utah	Public	56	54	2	3.5	203	192	5.7
Vermont: University of Vermont	do	52	53	+1	−1.9	184	180	2.1
Virginia:								
University of Virginia	do	76	75	1	1.3	287	280	2.4
Medical College of Virginia	do	84	64	20	23.8	351	341	2.8
Washington: University of Washington	do	78	73	5	6.4	288	284	1.4
West Virginia: University of West Virginia	do	45	47	+2	−4.4	82	63	23.1
Wisconsin:								
University of Wisconsin	do	88	77	11	12.5	342	321	6.1
Marquette	Private	104	99	5	4.8	393	379	3.5
BASIC MEDICAL SCHOOLS								
New Hampshire: Dartmouth	do	24	23	1	4.1			
North Dakota: University of North Dakota	Public	44	38	6	13.6			
South Dakota: University of South Dakota	do	44	30	14	31.8			

The CHAIRMAN. On behalf of the committee, let me thank each of you gentlemen for your presentation here on this important legislation in behalf of your association.

Dr. ANDERSON. Thank you, Mr. Harris, we have appreciated this opportunity.

The CHAIRMAN. While we are asking for additional information, Mr. Jones, I notice you are in the room, I would like to have a further comment from the Department on this same question as to the need for scholarships for the first 2 or 3 years in view of the fact that you are not going to have any expansion of facilities for that period of time.

Mr. JONES. I can give you the comment now if you would like, sir.

Would you like it in writing or orally?

The CHAIRMAN. If it is going to be extended comment, we have to get on with some other witnesses.

Mr. JONES. I will give you a statement for the record.

(The statement referred to above follows:)

THE NEED FOR AN IMMEDIATE SCHOLARSHIP PROGRAM

Questions have been raised as to whether a scholarship program is needed at once, or whether it might be delayed a few years until a construction program has made a significant number of new places available.

We are convinced that the program is needed now. Important reasons are these:

(1) The number and quality of applicants to medical schools has dropped in recent years. This program would immediately reverse this alarming trend.

(2) The establishment and operation of such a program now would give the needed leadtime to establish career plans in medicine and dentistry for present college students.

(3) It would avoid some of the cancellations of acceptances of next year's students because of financial straits and prevent some of the dropouts at the end of the first year of study.

(4) It would give immediately a better selection of students to those schools now having difficulty in filling their classes with well-qualified applicants.

(5) It would give new and expanding schools some assurance that they would have an adequate supply of well-qualified students.

(6) The funds would be related to size of enrollment, so that scholarship support would grow as enrollment increased.

The CHAIRMAN. I would also like to have you supply for the record the total number of doctors in the United States, the total number of general practitioners in the United States. You gave it in percentages this morning, the total number of specialists, those who specialize in a given field. You gave that in percentages this morning, the total number of those in private practice.

I suppose that would be included in the above, too, but you mentioned this morning there are so many in nonprivate practice, that is, who are engaged in hospital service and things of that kind.

Mr. JONES. Yes. We will break that down.

The CHAIRMAN. And the number of those who were in Federal service. I think you gave that this morning. I am not sure.

Mr. JONES. That is correct.

The CHAIRMAN. The number of those who are retired.

If you have it, I would like you to give us the number enrolled in the medical schools, each of the last 5 years.

We would like to have the number who graduated from medical schools for each of the last 5 years.

We would like to have the number of doctors who have gone out of practice or quit practice either by retirement or death in each of the last 5 years, if that information is available. This will all be in the record. You can take it from the record, Mr. Jones.

(The information on deaths of physicians follows:)

Annual number of deaths reported to the AMA

Year:	Estimated number of deaths
1960	3,700
1959	3,500
1958	3,700
1957	3,500
1956	3,700

Source: Journal of American Medical Association, May 27, 1961, p. 707 and prior annual issues of the State board number of the journal.

Mr. YOUNGER. If the Chairman will yield, I wonder if it will be possible also to get the number who have fallen by the wayside or who entered medical school and did not graduate. I think this is important.

I have heard that the figure is very high as compared with other courses, but I have no knowledge on that. I think this ought to be a part of our information.

(The information requested appears on p. 146.)

The CHAIRMAN. I might say to the gentlemen, we are going to get the number who have entered each year for the last 5 years and the number who have graduated each year for the last 5 years, so we can deduct it.

Mr. JONES. I think there are some interesting figures on reasons in broad categories on dropouts. We can get that for you.

The CHAIRMAN. If you will do that for us, we will appreciate it.

(The information referred to follows:)

Loss of students enrolled in medical schools

Entering class		Graduating class		Percent not graduating
Date	Number	Date	Number	
September 1953	7,449	June 1957	6,796	8.8
September 1954	7,576	June 1958	6,861	9.4
September 1955	7,686	June 1959	6,860	10.7
September 1956	8,014	June 1960	7,081	11.6
September 1957	8,030	June 1961	6,994	12.9
Total	38,755		34,592	10.7

Dr. ANDERSON. If I might make this point. The failure rate in medical school is lower than in any other professional graduate training program. We are proud of this. We believe it reflects in part at least the care with which we select our students. The failure rate over the years has dropped markedly.

Before World War II, it was in the neighborhood of 25 percent. Today it is 10 percent or less. However, it has gone up slightly in recent years from a low of, I believe, about 4 or 5 percent in the mid-1950's, to approximately 9 or 10 percent now. We feel this does reflect some decline in the quality of the applicants that we have been receiving and whom we have accepted in recent years.

There is an old story which I might tell, it takes only a moment. When a freshman class in medical school used to be called together for its first session, it was customary for the dean, as I am sure many of you have heard, to tell each student to look to the men to the right and left of him because one of them would not be there 4 years later.

Today we say, look to the man on your left, look to the man on your right, and be confident that all three of you will be here when you graduate.

The CHAIRMAN. That is very good, Doctor, but I am still of the old school—I suppose it is the old school of philosophy—that every person who has an ambition and desire and can meet the requirements ought to have his opportunity.

Dr. ANDERSON. Yes, sir.

The CHAIRMAN. I do not know that I subscribe to this business of taking only those who do have the desire and can meet the highest possible standards there are. I do not like to see them screened that close.

We are glad to now have as our next witness, representatives of the American Dental Association, Dr. Gerald Timmons, president-elect of the American Dental Association, dean of the dental school at Temple University, also Dr. Raymond J. Nagle, chairman of the association's council on dental education, dean of the College of Dentistry at New York University.

STATEMENT OF DR. GERALD D. TIMMONS, PRESIDENT-ELECT, THE AMERICAN DENTAL ASSOCIATION, AND DEAN, COLLEGE OF DENTISTRY, TEMPLE UNIVERSITY

Dr. TIMMONS. Thank you very much. I should also like at this time to introduce Mr. Bernard J. Conway, who is the legal and legislative representative of the American Dental Association and who is seated at my right.

The CHAIRMAN. Very well, Mr. Conway, we are glad to have you with us.

Dr. TIMMONS. Mr. Chairman and members of the committee, I have prepared a short statement which will be distributed to the committee. I should like to read a part of it but in reading it I shall refrain from reading some of it because it is but a repetition of other material which you have in your hand.

The CHAIRMAN. Your entire statement will be included in the record.

Dr. TIMMONS. Thank you, sir.

(The statement referred to follows:)

STATEMENT OF DR. TIMMONS ON BEHALF OF THE AMERICAN DENTAL ASSOCIATION

I am Dr. Gerald D. Timmons. I am president-elect of the American Dental Association, and I am dean of the college of dentistry at Temple University in Philadelphia. With me is Dr. Raymond J. Nagle who is chairman of the association's council on dental education and dean of the college of dentistry at New York University. I am also accompanied by Mr. Bernard J. Conway, of Chicago, Ill., who is in charge of the association's legal and legislative affairs and by Mr. Hal M. Christensen, the association's Washington counsel.

We are here today to present the American Dental Association's views on H.R. 4999, the Health Professions Educational Assistance Act.

Within the dental profession there is an increasing concern over the problem of providing the quantity and quality of dental health care that a rapidly expanding and increasingly health conscious American public demands and expects. Through recently expanded programs in dental research and through other important developments, significant progress has been made in controlling dental diseases and in extending the availability of dental care. Yet much more needs to be done.

At the present time, the shortage of dental manpower stands out as the most formidable barrier to continued progress in dental health. The capacity to produce dental personnel continues to be outrun by the growth in population and the increased demand for dental care.

Responsible Government and private groups have conducted study after study and have consistently documented the acute needs in this area. There is no room for reasonable dispute that the situation is becoming increasingly critical.

In his health message to Congress last year, the President of the United States pointed out that if during the next 10 years we could increase the capacity of our dental schools by 100 percent, we would still be able only to maintain the present ratio of dentists to population. To accomplish even this much, we must have increased enrollment in existing schools plus 20 new dental schools. Again this year, in his state of the Union message, the President emphasized the serious nature of the situation.

The American Dental Association believes the President's appraisal of the situation is a fair one, and unless immediate corrective action is taken, the problem may reach insurmountable proportions.

There is an immediate need for funds to provide additional and improved dental educational facilities, and to provide increased support for dental students and dental schools to help meet the already high and steadily rising costs of dental education.

Enactment of H.R. 4999 would be of substantial assistance in meeting these needs.

In the case of dentistry, the bill would provide $15 million a year for 10 years for matching construction grants for new schools or for major expansion of existing schools. The bill would also provide $15 million a year for renovation and replacement of obsolete dental, medical, osteopathic, or public health school teaching facilities. In the case of new schools or major expansion of existing schools, the Federal share could be up to 66⅔ percent of costs. Grants for renovation or replacement of existing facilities could not exceed 50 percent of construction costs. The bill also would authorize $500,000 per year for 10 years for projects for planning of dental, medical, or public health education programs by schools and other public or nonprofit private agencies. In addition, the bill would provide scholarship support for each school in an amount equal to $1,500 times 25 percent of its first-year class enrollment and increasing to $1,500 times 25 percent of the total enrollment by the end of the fourth year. Maximum scholarship for any one student would be $2,000. To meet the instructional costs of these students, the bill would authorize grants to schools in an amount equal to $1,000 for each scholarship holder but not in excess of $1,000 for 25 percent of the first-year class in the first year, with this maximum increasing by the fourth year to $1,000 for 25 percent of the 4-year enrollment. The bill also extends the research facilities construction grant program for 3 years and raises the authorization from $30 million to $50 million annually.

As indicated above, the American Dental Association believes that enactment of H.R. 4999 would go far to alleviate the severe problems facing dental education today and in the future.

It should be pointed out that these problems are national in scope and require for their full solution a remedy of equal dimension. At the present time, there are 47 dental schools located in 26 States, the District of Columbia, and Puerto Rico. These 28 jurisdictions supply the dentists for their own populations in addition to dentists for the remaining 24 States. Thus, slightly more than half the States furnish dentists for the entire country.

There is also another national aspect to the dental manpower problems. The Federal Government itself is a large consumer of dental services. The Armed Forces and other Government agencies exert considerable and continuous pressures on available dental manpower. Among the professions, only dentistry and medicine are subjected to special draft call.

Both public and private schools are finding it difficult to meet costs. Funds from local and State governments and private sources are not available in suf-

ficient amounts to provide the needed educational facilities. In this situation, it is believed, the Federal Government has a vital interest and responsibility.

It is our opinion that unless some assistance is forthcoming at the national level, no new private dental schools will be established and some of those now in existence will find it increasingly difficult to continue. The association believes this should not occur. An effort should be made to maintain privately endowed and operated schools in the dental education system.

I would like to emphasize to the committee that this association recognizes and appreciates the great demands on the Federal Treasury at this time. I would like to be able to tell this committee that the dental manpower problem can be solved with private, State, and local resources.

It is an undeniable fact, however, that the size of the problem is of such proportions that its solution requires national attention. We are firmly convinced that unless Federal funds are made available to help arrest the impending decline in dental manpower, there will not be enough dentists to provide the dental care the public needs and deserves. As the representative of a responsible health profession, it is the association's obligation to do everything possible to prevent this occurrence.

Representatives of the American Dental Association have testified before Congress in support of Federal grant-in-aid legislation for assisting dental schools six times since 1949. In that year the association's house of delegates adopted the following resolution:

"*Resolved*, That the American Dental Association approve the policy that Federal funds, with justification, might be appropriated in support of dental education programs, provided that such funds, when appropriated, should be accepted with the understanding that the Government shall not exercise any control over, or prescribe any requirements with respect to, the curriculum, teaching personnel, or administration of any school or the admission of applicants thereto."

The bill, H.R. 4999, is in keeping with the policy of the American Dental Association.

It is believed, however, that one clarifying amendment might be in order. It is suggested that "Section 726: Noninterference With Administration of Institutions" be extended to apply to part C of the bill relating to the scholarship program. While it is recognized that little or no discretion is conferred upon the Surgeon General in administering this part of the program, adoption of the suggested amendment would make crystal clear the intent that there shall be no interference with school administration.

Recommendation.—The American Dental Association with a membership of 95,000 and representing more than 80 percent of the Nation's dentists, urges Congress to enact H.R. 4999 as a significant step toward improving the dental health of the people of this country.

A this time, I should like to introduce Dr. Raymond J. Nagle, who is eminently qualified to speak on the specific needs in dental education.

Dr. TIMMONS. I am Dr. Gerald D. Timmons. I am president-elect of the American Dental Association, and I am dean of the College of Dentistry at Temple University in Philadelphia. With me is Dr. Raymond J. Nagle who is chairman of the association's council on dental education and dean of the College of Dentistry at New York University. I am also accompanied by Mr. Bernard J. Conway of Chicago, Ill., who is in charge of the association's legal and legislative affairs and by Mr. Hal M. Christensen, the association's Washington counsel.

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ments, significant progress has been made in controlling dental diseases and in extending the availability of dental care. Yet much more needs to be done.

At the present time, the shortage of dental manpower stands out as the most formidable barrier to continued progress in dental health. The capacity to produce dental personnel continues to be outrun by the growth in population and the increased demand for dental care.

Responsible Government and private groups have conducted study after study and have consistently documented the acute needs in this area. There is no room for reasonable dispute that the situation is becoming increasingly critical.

In his health message to Congress last year, the President of the United States pointed out that if during the next 10 years we could increase the capacity of our dental schools by 100 percent, we would still be able only to maintain the present ratio of dentists to population. To accomplish even this much, we must have increased enrollment in existing schools plus 20 new dental schools. Again this year, in his state of the Union message, the President emphasized the serious nature of the situation.

The American Dental Association believes the President's appraisal of the situation is a fair one, and unless immediate corrective action is taken, the problem may reach insurmountable proportions.

There is an immediate need for funds to provide additional and improved dental educational facilities, and to provide increased support for dental students and dental schools to help meet the already high and steadily rising costs of dental education.

Enactment of H.R. 4999 would be of substantial assistance in meeting these needs.

As indicated above, the American Dental Association believes that enactment of H.R. 4999 would go far to alleviate the severe problems facing dental education today and in the future.

It should be pointed out that these problems are national in scope and require for their full solution a remedy of equal dimension. At the present time, there are 47 dental schools located in 26 States, the District of Columbia, and Puerto Rico. These 28 jurisdictions supply the dentists for their own populations in addition to dentists for the remaining 24 States. Thus, slightly more than half the States furnish dentists for the entire country.

There is also another national aspect to the dental manpower problems. The Federal Government itself is a large consumer of dental services. The Armed Forces and other Government agencies exert considerable and continuous pressures on available dental manpower. Among the professions, only dentistry and medicine are subjected to special draft call.

Both public and private schools are finding it difficult to meet costs. Funds from local and State governments and private sources are not available in sufficient amounts to provide the needed educational facilities. In this situation, it is believed, the Federal Government has a vital interest and responsibility.

It is our opinion that unless some assistance is forthcoming at the national level, no new private dental schools will be established and some of those now in existence will find it increasingly difficult to continue. The association believes this should not occur. An effort

should be made to maintain privately endowed and operated schools in the dental education system.

I would like to emphasize to the committee that this association recognizes and appreciates the great demands on the Federal Treasury at this time. I would like to be able to tell this committee that the dental manpower problem can be solved with private, State, and local resources.

It is an undeniable fact, however, that the size of the problem is of such proportions that its solution requires national attention. We are firmly convinced that unless Federal funds are made available to help arrest the impending decline in dental manpower, there will not be enough dentists to provide the dental care the public needs and deserves. As the representative of a responsible health profession, it is the association's obligation to do everything possible to prevent this occurrence.

Representatives of the American Dental Association have testified before Congress in support of Federal grant-in-aid legislation for assisting dental schools six times since 1949. In that year the association's house of delegates adopted the following resolution:

Resolved, That the American Dental Association approve the policy that Federal funds, with justification, might be appropriated in support of dental education programs, provided that such funds when appropriated should be accepted with the understanding that the Government shall not exercise any control over, or prescribe any requirements with respect to, the curriculum, teaching personnel, or administration of any school, or the admission of applicants thereto.

The bill, H.R. 4999, is in keeping with the policy of the American Dental Association.

It is believed, however, that one clarifying amendment might be in order. It is suggested that section 726, "Noninterference With Administration of Institutions," be extended to apply to part C of the bill relating to the scholarship program. While it is recognized that little or no discretion is conferred upon the Surgeon General in administering this part of the program, adoption of the suggested amendment would make crystal clear the intent that there shall be no interference with school administration.

Recommendation: The American Dental Association with a membership of 95,000 and representing more than 80 percent of the Nation's dentists, urges Congress to enact H.R. 4999 as a significant step toward improving the dental health of the people of this country.

At this time, I should like to introduce Dr. Raymond J. Nagle, who is eminently qualified to speak on the specific needs in dental education.

STATEMENT OF DR. RAYMOND J. NAGLE, DEAN, COLLEGE OF DENTISTRY, NEW YORK UNIVERSITY, AND CHAIRMAN, AMERICAN DENTAL ASSOCIATION COUNCIL ON DENTAL EDUCATION

Dr. NAGLE. I am Dr. Raymond J. Nagle. I am dean of the College of Dentistry of New York University and chairman of the American Dental Association Council on Dental Education.

I would like to thank the committee for affording the American Dental Association this opportunity to inform the committee on the needs in dental education.

Several expert groups have scrutinized dentistry and its professional manpower to determine what this Nation needs to do to assure that our people will continue to have adequate dental services and care. All have concluded that the job that needs to be done cannot be done without Federal financing of dental education. These groups I speak about, a few of which are listed in the appendix of the statement which has been distributed to the committee are—

1. "Medical School Inquiry," staff report to the Committee on Interstate and Foreign Commerce, House of Representatives, 85th Congress, 1st session(committee print).

2. U.S. Department of Health, Education, and Welfare, Office of the Secretary, "The Advancement of Medical Research and Education Through the Department of Health, Education, and Welfare: Final Report of the Secretary's Consultants on Medical Research and Education, 1958" (the Bayne-Jones report).

3. U.S. Department of Health, Education, and Welfare, Public Health Service, "Physicians for a Growing America: Report of the Surgeon General's Consultant Group on Medical Education, 1959 (the Bane report).

4. Subcommittee on Departments of Labor, Health, Education, and Welfare of the Committee on Appropriations; U.S. Senate (86th Cong. 2d sess.), "Federal Support of Medical Research: Report of the Committee of Consultants on Medical Research, 1960."

5. American Council on Education, Commission on the Survey of Dentistry in the United States, "The Survey of Dentistry, 1961."

Mr. Chairman, this is a summary of the longer report which has been filed with the committee.

All of these expert groups agreed that the Federal Government should delay no longer in bearing a substantial share of the cost of training dental students. All concluded that each year the Federal Government delays in assuming this obligation means a predictable loss of dental services to our people.

Upon what did these expert groups rely to justify their strong urging that Federal funds be used to assist dental education? In brief, they looked first at the dental services available to our 185 million people today. Next, they determined the number of dentists the schools would have to graduate to maintain today's level of dental services for 230 million people in 1975—only 13 years away.

These groups saw that we would need about 35,000 more practicing dentists in 1975 than we have today. They consulted with dental educators and other interested persons and concluded that we have to add substantially to enrollment in the 47 existing schools and build 22 new dental schools to graduate these additional dentists. These same consultants estimated that to build one new dental school costs between $6 and $8 million.

These expert groups also looked at the costs involved in training dental students today. They found, for example, that the tuition charges for a course in dentistry are, on the average, $800 per year. But they also found that the schools, on the average, spent about $2,200 additional per year to educate each student.

These experts did not of course limit their findings and recommendations to building new schools in new locations. They also reviewed the critical need for remodeling and expanding the existing dental schools. They recognized that in a few instances an entire new educational facility would be required to supplant antiquated and outmoded classrooms, laboratories, and clinics. In many more instances the experts found that schools were inadequately housed and equipped because the funds needed to make up the difference between tuition and the amount of money needed to maintain an effective faculty and a modern facility were nowhere to be found.

This is a broad outline of the problem that, in our opinion, cannot be solved without Federal financing of dental education. What follows is a description in greater detail of the facts about dental manpower and care today and what will be needed in 1975.

In the United States today there is a dentist-to-population ratio of 1 to 1,900. This reflects the 95,000 dentists who are actively practicing their profession. The population today is about 185 million. In 1975 the population will reach 230 million and this is a conservative estimate. To maintain the present ratio of dentists to population in 1975 will require a force of 130,000 dentists.

How can this be achieved?

Today the 47 U.S. dental schools are graduating about 3,200 dentists each year. To maintain the existing ratio of dentists to population will require that the total of dental school graduates increase by about 250 each year, starting with the 1963 graduation. The Commission on the Survey of Dentistry supports this projected increase and recommends that plans be started now to assure that 6,200 dentists will graduate in the 1975 class—this means 3,000 more than the 1962 class will produce. It means doubling the output of dental graduates in a little more than 10 years.

In order to keep pace—that is, to add 250 dental graduates a year—the Commission on the Survey of Dentistry recommends that plans be started to build the necessary facilities—the classrooms, the laboratories, and the clinics. Specifically, this means that these schools which have outmoded and wornout buildings and equipment must be rehabilitated so that there will be no reduction in their enrollments and no further threat to the high standard of education that must prevail to graduate competent dentists. These plans for immediate action demand next that the large majority of our 47 dental schools add the educational and clinical facilities needed to graduate 750 more dentists in the next 10 years. Finally this means that there be constructed at least 22 new dental schools, each of which would be expected to graduate about 100 dentists a year.

The cost of the program I have suggested would be in the neighborhood of $350 million. How would this estimated expenditure for the needed expansion of our dental schools be raised? It will require continued contributions from private and local governmental sources. But none of the expert groups that have studied the problem of expanding dental educational facilities believes that the job can be done unless the Federal Government provides a substantial share of the cost. H.R. 4999, in the opinion of the American Dental Association, offers a sound plan of Federal financial support of dental education and should be enacted without any further delay.

H.R. 4999 would provide $150 million in Federal matching funds for 10 years on a 66⅔–33⅓ percent basis for new dental schools and expansion of existing schools. The schools would be required to raise the remaining $75 million from private and local governmental sources. Additionally, H.R. 4999 offers $150 million in matching funds over the next 10 years on a 50–50 percent basis for rehabilitation of obsolescent facilities in dental, medical, osteopathic, and public health schools. There is evidence to indicate that the dental schools will be able to match and use nearly half of these funds.

If the Congress should follow through immediately on the recommendation we are making today and provide the construction funds authorized in H.R. 4999, it would be at least 3 years before the first dental student would be admitted to a new school and 4 years beyond that before he would be graduated. It would be at least 2 years before any of the existing schools could substantially increase capacity and begin to enroll the additional students to fill that capacity. Meanwhile the population will continue to grow and the health education level of our people will continue to rise.

With the certainty of this tremendous demand for dental services within the next 10 years, it is obvious that the most immediate and critical need in dental education is for expansion of enrollment. We must graduate more dentists. The conclusion is just as obvious that funds for constructing the needed buildings to increase our output of dentists must have priority over other needs of the schools.

There are other needs in the critical area for dental education and they are covered in H.R. 4999. I shall briefly indicate why the American Dental Association supports the scholarship plan and the cost of education grants offered within H.R. 4999.

There is a competition for highly qualified students today that places dentistry and medicine in an unfavorable situation. The fellowships in the physical sciences leading toward a Ph. D. degree, in our opinion, have attracted many students who would otherwise enter dental or medical schools. This was described eloquently in Secretary Ribicoff's testimony and the additional material submitted by the Department of Health, Education, and Welfare. Again, all of the expert study groups which have explored the dental and medical manpower problems have substantiated the facts expressed by Mr. Ribicoff.

It should be kept in mind that our highly qualified students have a choice between a tuition-free graduate training program, a fellowship leading to a Ph. D. in one of the basic sciences, and a $1,000 to $1,500 annual charge for dental or medical education. In addition, the typical science fellowship provides another $1,500 to $2,000 annually to the recipient student toward his cost of living.

What does the typical dental student face in the way of education and living expenses?

The average annual tuition fee for dental education is about $800. The average expense for school equipment, books, and other needed items is $650 per year. The average living expenses for each student per year is $2,300. This means that the total cost of a 4-year dental education averages $15,000.

Now where does a typical dental student obtain his needed finances today? Primarily from his family. And in this instance we must

include his wife because many dental students are married. We find approximately one-third of the students are married as freshmen, about 45 percent of the sophomores, 55 percent of the juniors, and 65 percent of the seniors. And this may seem as though most of the students do have a wife working to help them get through school. But there are many unexpected things about family life, and many find themselves with small children and find illnesses occurring.

Many students also have jobs, and often these students are working much longer hours than they should be. We all know that such employment is detracting from their education. Yet the deans of the various schools dare not deny them the opportunity of obtaining added income because it might otherwise mean that they will have to leave school.

There are some scholarships in dental schools, but not very many. A few less than 10 percent of the students get scholarship support, which averages about $500 per recipient.

Insofar as loans are concerned, no more than 23 percent get loan support, and again this averages about $500. The average graduate of a dental school has a sizable debt when he leaves school. Two-thirds of them have a debt of approximately $4,500 and one-third of them owe $6,500.

We estimate that the cost of a man's education and his setting up of a dental office is rather staggering. The minimum cost of his liberal arts or predental education will be about $4,000. The cost of his dental school education, a little over $15,000. And it will cost in between $7,000 and $8,000 to set up his office. So he will then have invested in his education a minimum of $27,000 by the time he is ready to see his first patient.

So, in summary of this section, recruitment is extremely necessary. There has been a great decrease in both the quality and quantity of applicants that must be rectified in the days ahead as far as dental education is concerned, and we feel that the dental schools must obtain their fair share of the better students of the country in order to provide the teachers, researchers, specialists, and leaders that are so badly needed in dentistry.

Now insofar as cost of education payments to the schools, the cost of educating dental students is extremely high. I would like to read a few paragraphs from the report of the Commission on Survey of Dentistry in the United States. This however has been made available to the members of this committee and also Dr. Lester Burkett, president of the American Association of Dental Schools is to make a presentation to the committee and he will touch on this subject. So in the interests of time I will not review what I know he will also speak about.

Much of the data upon which the Commission on the Survey of Dentistry based its findings and recommendations stemmed from a series of surveys conducted by the Council on Dental Education of the American Dental Association. These association fact sheets and studies are revised regularly as new information is collected from the dental schools.

There should be no doubt of the position of the American Dental Association on Federal grants-in-aid for dental education. Association witnesses have supported such proposals at congressional hearings

at least six times since 1949. Again, the Commission on the Survey of Dentistry comments favorably on this realistic attitude of the dental profession through its national association.

The Commission on the Survey of Dentistry also compiled information on the attitudes of those university presidents having dental schools within their purview and the deans of the dental schools on accepting Federal funds to support their dental schools and programs. The commission reports that the majority of university presidents favor such support. Likewise, the dental school deans endorse Federal aid. The witnesses for the American Association of Dental Schools will, I am sure, confirm this statement.

Again, I am just trying to show how close the position of the commission and the American Dental Association is. And, in closing, Mr. Chairman, I would like to ask for permission to submit additional explanatory data for the record.

Thank you for the opportunity to appear before the committee. I shall be happy to answer any questions you may have.

The CHAIRMAN. Very well. I assume that the statement that was submitted, that you started off on and which you expanded on, I observed, that you want it included in the record?

Dr. NAGLE. Yes, sir.

The CHAIRMAN. Is that the information you have reference to?

Dr. NAGLE. Yes, sir.

The CHAIRMAN. Very well. It will be included in the record at this point.

(The statement referred to follows:)

SUMMARY STATEMENT OF THE AMERICAN DENTAL ASSOCIATION

Mr. Chairman and members of the committee, I am Dr. Raymond J. Nagle. I am dean of the College of Dentistry at New York University and chairman of the American Dental Association Council on Dental Education.

I would like to thank the committee for affording the American Dental Association this opportunity to inform the committee on the needs in dental education.

Several expert groups have scrutinized dentistry and its professional manpower to determine what this Nation needs to do to assure that our people will continue to have adequate dental services and care. All have concluded that the job that needs to be done cannot be done without Federal financing of dental education.

All of these expert groups agreed that the Federal Government should delay no longer in bearing a substantial share of the cost of training dental students. All concluded that each year the Federal Government delays in assuming this obligation means a predictable loss of dental services to our people.

Upon what did these expert groups rely to justify their strong urging that Federal funds be used to assist dental education? In brief, they looked first at the dental services available to our 180 million people today. Next, they determined the number of dentists the schools would have to graduate to maintain today's level of dental services for 230 million people in 1975—only 13 years away.

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These experts did not, of course, limit their findings and recommendations to building new schools in new locations. They also reviewed the critical need for remodeling and expanding the existing dental schools. They recognize that in a few instances an entire new educational facility would be required to supplant antiquated and outmoded classrooms, laboratories, and clinics. In many more instances the experts found that schools were inadequately housed and equipped because the funds needed to make up the difference between tuition and the amount of money needed to maintain an effective faculty and a modern facility were nowhere to be found.

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So, in summary of this section, recruitment is extremely necessary. There has been a great decrease in both the quality and quantity of applicants that must be rectified in the days ahead as far as dental education is concerned, and we feel that the dental schools must obtain their fair share of the better students of the country in order to provide the teachers, researchers, specialists, and leaders that are so badly needed in dentistry.

Now insofar as cost of education payments to the schools, the cost of educating dental students is extremely high. I would like to read a few paragraphs from the report of the Commisison on Survey of Dentistry in the United States:

"When projecting estimates of future costs for higher education one must determine whether any economies might be made to lessen estimated additional costs. Because of inadequate support in the past, dental education has already been forced to make every possible economy. In the decade following World

War II, the dental schools in the United States increased their combined enrollments sharply, and they did so with as little added expense as they could. The schools now find themselves in an inflationary economy. Endowment income is much depressed in its purchasing power and many States are experiencing difficulty in supporting higher education. The dental schools can make no significant savings without decreasing the quality of their teaching or reducing their enrollments, and neither action would serve the best interests of the Nation and its people * * *.

"If dental education is to improve in the many ways that have been suggested, it must receive an annual income of approximately $75 million by 1970, excluding any additional research funds that may be forthcoming from outside agencies by that time. Since income is now $43.3 million, $31.7 million must be obtained during the coming decade. Undoubtedly, inflation will permit an increase of about $1.5 million in clinic income, and tuition increases may account for approximately another $7 million by increasing the average tuition to $1,300 per year. The difference, about $24 million, must be obtained from other sources to permit dental education to progress as an integral part of higher education.

"Based upon projected annual expenditures of approximately $3,000 in 1958–59 to approximately $5,000 in 1970. This average annual cost to the universities of $5,000 per dental student appears to be a realistic estimate for the coming decade when it is noted that the average cost per student in 1958–59 in the 10 best-supported dental schools was approximately $6,400 (Council on Dental Education, American Dental Association, 'Survey of Dental School Finances'). The 10 schools with the lowest cost per student averaged approximately $1,860 in 1958–59, and obviously, these schools are in serious need of financial help.

"Actually, a projected basic annual operating expense of $5,000 per dental student by 1970 may be a rather conservative estimate. In the academic year of 1949–50 the median basic operating expense per student for all 40 schools then in existence was $1,316. (Financial Status and Needs of Dental Schools, U.S. Public Health Service Publication No. 200, p. 50.) In 1958–59 the average was $2,967, or an increase of 125 percent in 9 years. (Council on Dental Education, American Dental Association, "Survey of Dental School Finances.") If a comparable increase were to take place between 1959 and 1970, the average annual total cost per student would be over $6,000."

Much of the data upon which the Commission on the Survey of Dentistry based its findings and recommendations stemmed from a series of surveys conducted by the Council on Dental Education of the American Dental Association. These association fact sheets and studies are revised regularly as new information is collected from the dental schools.

There should be no doubt of the position of the American Dental Association on Federal grants-in-aid for dental education. Association witnesses have supported such proposals at congressional hearings at least six times since 1949. Again, the Commission on the Survey of Dentistry comments favorably on this realistic attitude of the dental profession through its national association.

The Commission on the Survey of Dentistry also compiled information on the attitudes of those university presidents having dental schools within their purview and the deans of the dental schools on accepting Federal funds to support their dental schools and programs. The Commission reports that the majority of university presidents favor such support. Likewise, the dental school deans endorse Federal aid. The witnesses for the American Association of Dental Schools will, I am sure, confirm this statement.

Again I am just trying to show how close the position of the Commission and the American Dental Association is. And, in closing, Mr. Chairman, I would like to ask for permission to submit additional explanatory data for the record.

Thank you for the opportunity to appear before the committee. I shall be happy to answer any questions you may have.

SUPPLEMENTARY STATEMENT OF THE AMERICAN DENTAL ASSOCIATION

I am Dr. Raymond J. Nagle, dean of the College of Dentistry at New York University.

In 1955 and 1957, the American Dental Association presented to this committee data and statistics related to the dental manpower problems and the legislative remedies which appeared to be indicated. Since that time, additional factual

information has been assembled as the result of several additional studies conducted by groups from within and without government.[1] All of these studies considered the predictable growth in population as related to the existing and future capacity to train dental personnel. Each study arrived at the conclusion that to meet the existing and impending shortage of dental manpower, training capacity must be expanded and Federal financial assistance is necessary to stimulate such expansion.

The American Dental Association believes that the areas of need have been defined and documented, and that a careful review of the available factual data provides a convincing demonstration of the need for action by the Congress.

NEED FOR CONSTRUCTION FUNDS

Present capacity of dental schools:

There are now 47 dental schools in operation, including 4 that have started operations since 1956. Two new dental schools are in development and will be able to accept students within the next 2 or 3 years. The 1961 undergraduate dental school enrollment is 13,513 students. In addition, there are 1,398 students engaged in graduate, postgraduate and special study programs, and 1,169 students enrolled in dental hygiene schools which are not affiliated with dental school but which offer programs that have been approved by the American Dental Association.

From October 1955 to October 1961, undergraduate dental school enrollment has increased from 12,730 to 13,513. The number of students engaged in special studies and seeking advanced degrees has increased from 539 to 1,398. The number of dental hygiene undergraduates has increased from 1,160 to 1,571. The number of continuing or refresher students has increased from 4,673 to 9,471.

The growing need for dentists and dental auxiliaries

The continuing expansion of training programs offered by the schools reflects the constant effort of the schools to meet the growing demand for dentists and dental auxiliaries made necessary by the prevailing population growth and the replacement of dentists and auxiliaries lost through death and retirement from active practice.

But these increases in enrollments, utilizing present facilities to their greatest capacities, do not enable dental schools to graduate the needed personnel. In our testimony before this committee in April of 1958, figures were given projecting the need for dentists in 1975. Based on the population projection for the year 1975 of 228½ million, 133,250 dentists will be needed in that year to maintain the 1958 dentist-population ratio of 1 to 1,767. On the basis of the present number of dental school graduates, it is estimated that by 1975 there will be only about 118,000 dentists in active practice, or approximately 15,000 less than are needed to retain the 1958 ratio. Instead of a ratio of 1 to 1,767, there will be a ratio of 1 to 2,000. To regain the 1958 ratio, a progressively increasing number of graduates will be needed each year, so that by 1975, an additional 2,7000 dentists will graduate yearly. If these additional graduates can be provided by the dental schools, by 1975 there would be 133,250 practicing dentists.

As stated in the association's testimony of 1958, leaders in the profession and dental educators view these statistics with serious concern. The profession feels that the most obvious solution to these problems would be the expansion of existing dental teaching facilities and the construction of new schools. Although obvious, this is an expensive course of action requiring not only the resources of the profession but also the resources of public and private agencies, including those of the Federal Government.

According to the report of the Surgeon General's Consultant Group on Medical Education, confirmed by a study of a consultant committee on medical research which advised Senator Lister Hill's Subcommittee on Appropriations, the country will need an equivalent of 22 new dental schools. The consultant group further stated that "* * * to arrest the decline in the national ratio of dentists to population at its 1959 level will require that dental school training capacity be increased sufficiently to produce 6,180 annual graduates by 1975, or about 2,700 more than can be expected." As of June 1961, dental schools graduated 3,290 students. In 1962 it is anticipated that the schools will graduate 3,294 dentists.

[1] See appendix.

Present plans for expansion (without Federal aid)

According to a 1961 survey conducted by the American Dental Association and the American Association of Dental Schools, 28 dental schools are now planning expansion of teaching facilities, involving some $68 million during the next 10 years. Approximately 18 of these schools are contemplating construction to be commenced within the next 3 years. Without Federal aid, the construction now planned will provide new student places for 354 dental students, 447 dental hygiene students, 380 dental assistant, and 155 dental laboratory technicians.

Expansion with Federal support

In the opinion of most schools, Federal aid would provide a major stimulus to needed construction. Of these 28 schools now planning construction, 23 would modify these plans in some respect, either by enlarging them to undertake a more ambitious building program or by advancing or making definite the scheduled starting date. All of the 19 schools not now planning construction would, under some conditions, undertake construction. Instead of a planned expenditure of $68 million for dental school construction there would be $148 million spent for that purpose. Instead of only 18 schools scheduling construction within the next 3 years, there would be 39.

With Federal aid the construction planned will increase the number of new student places from 354 to 725 for dental students, from 447 to 915 for dental hygiene students, from 380 to 714 for dental assistants, and 303 new places for dental laboratory technicians rather than 155.

About half of the schools plan larger graduate, postgraduate, and research programs, whether or not Federal aid is available. With aid, nearly every school will expand these programs.

If Federal matching grants are made available as envisioned in the Health Professions Education Assistance Act (H.R. 4999), existing dental schools have indicated a willingness to undertake new construction and remodeling costing over $148 million. In terms of the available and anticipated matching funds, the schools estimate over $58 million as available within 5 years and about $73 million within the next 10 years.

The association believes that the matching grant formulas as set forth in H.R. 4999 are realistic and would be fully utilized when these funds become available.

B. SCHOLARSHIPS FOR DENTAL STUDENTS

Cost of financing a dental education

Another, but no less important, factor in providing adequate dental care of the public is the cost of dental education to the individual students. Dental education is, without question, the most expensive of the professional disciplines from the standpoint of student finances. Undoubtedly this fact contributes to the failure of many promising students from lower and middle income families to enter dentistry. Both the profession and public vitally need these students and the public interest is not well served if the profession is unable to secure them.

At the present time, the average cost to students of a 4-year dental education is $15,043. This can be broken down into school expenses of $5,824 and average living expenses of $9,219. The figures are slightly higher for students in private dental schools. For the married dental student—and an ever-increasing number of dental students are married—the average cost of a dental education is over $18,000; if he attends a private dental school, this figure rises to over $19,000.

Present scholarship and other financial assistance to dental students

The 1961 survey of financial aid for dental education reveals some startling figures with respect to students receiving aid from their schools. It is estimated that 91 percent of all dental students do not receive any scholarship aid. This is an insignificant improvement over the years 1953–54 when 92 percent did not receive scholarships. More than three-fourths of the dental students do not receive school loans (76 percent). The average amount received in scholarships (among those who receive scholarships) is $480, and the average amount received in loans in $627. Significantly, only 5 percent of the freshmen in dental schools receive scholarships and only 8 percent receive loans.

Need for a Federal scholarship program for dental students

As nearly as can be determined, only about 40 percent of the dental students are able to pay for their own education through a combination of personal savings, parental assistance, and help from relatives and friends. For the remaining 60 percent, some financial aid is needed.

In 1960–61, dental schools received scholarship requests from 12 percent of their students. The students requested $809,547 and approximately $580,000 was awarded in scholarships. Twenty-seven percent of the students requested $2.6 million in loans and only slightly over $2 million was awarded. Although a large percentage of the students who requested scholarships were awarded them (75 percent), the amounts awarded were obviously inadequate. Further, there is no way of recording the number of competent and needy students who did not apply for scholarships or loans because they knew that none were available.

Relatively few schools have uncommitted loan funds in any volume. At the time of the 1961 survey on financial aid for dental education, 14 schools said they had no uncommitted loan funds and another 22 reported that the funds on hand amounted to less than $10,000. Actually, there were 11 schools which held almost 80 percent of all uncommitted funds.

The profession is vitally concerned with the public need for an adequate supply of dentists. One of the major deterrents encountered in the recruitment of dental students, is the high cost of dental education for some and the prohibitive cost for others. There is plainly an ever-increasing need for funds to provide scholarships so that able and qualified students are not prevented, for financial reasons, from selecting dentistry as a profession.

Through both private and public programs, a part of the need for financial assistance to dental students is now met with student loans. Moneys available under the National Defense Education Act probably represent the major new source of loan aid, providing help to 12 percent of the total student body in 1961. The association agrees that loan funds are essential and needed in dental education, but it observes also, that indebtedness of dental students at the outset of a professional career is formidable. For example, dental students must invest from $7,000 to $10,000 to equip an operatory. This cost of equipment, unequaled by the other professions, is usually financed as a commercial loan by the new graduate and more often than not, such a loan is incurred in addition to existing indebtedness for professional education.

Therefore, in the association's view, it is preferable that greatly increased scholarship funds be made available so that dental students are not overburdened with debt at the outset of their professional careers.

While the profession now has available both loans and scholarship funds for needy and qualified dental students, it is evident that the present volume of these funds is insufficient to bring into the profession the number of qualified students required to meet the future dental manpower needs of the Nation. Therefore, the association views as urgent, a Federal scholarship assistance program for dental students as outlined in H.R. 4999.

C. COST OF EDUCATION PAYMENTS TO THE SCHOOLS

Cost of educating a dental student

Educating dental students costs much more than the schools receive from tuition charges paid by students. On the average, the dental student contributes in tuition only 29 percent of the cost of educating him. In private schools, the average is 41 percent and in the public schools, it is only 16 percent. Although tuition costs have increased in the past 10 years, a dental student 10 years ago contributed approximately one-third of the cost of his education, a generation ago, he contributed almost half.

The cost of the regular education programs of the schools is now almost 2½ times what it was 10 years ago. Approximately $38.5 million is now being spent in support of the regular programs, as compared with $15.7 million in 1949–50. Now, however, only 73 percent of these costs are met by the dental schools out of their own budgeted funds, while 10 years ago, the schools met 88 percent of their own expenses.

Today, the annual cost of educating more than 13,000 dental students is $44.5 million. As recently as 1955, the annual cost for 45 dental schools was $32 million. If we translate these figures to average cost per student, today's cost for dental schools is about $3,000 per student, while the 1955 cost was about $2,500 per student. We must expect this cost per student to continue to increase.

Assistance needed by the dental schools

The answer cannot, in fairness or in terms of our democratic goals, be an excessive increase in tuition charges aimed to meet full educational costs. This

would, in our opinion, have two obviously unfortunate results. With tuition charges increased from about $3,000 to $5,000 a year, the number of dental students would be diminished to perhaps a quarter of today's enrollment. Additionally, the source of students would necessarily be that very small segment of society with extremely high income. These consequences must not occur. We want to keep tuition cost for dental education at a reasonable level so that all those with a dedication for dentistry, who have the ability to fulfill the rigid education requirements, will not be deferred from seeking a dental education for financial reasons.

The position of the American Dental Association is, as it has been in the past, in favor of dental grants-in-aid for dental education. Association witnesses have supported proposals similar to H.R. 4999 at congressional hearings at least five times since 1950. It should be noted that the Commission on the Survey of Dentistry comments favorably on this realistic attitude of the dental profession through its national association.

The Commission on the Survey of Dentistry also compiled information on the attitude of those university presidents having dental schools within their purview and the deans of the dental schools on accepting Federal funds to support their dental schools and programs. The Commission reports that the majority of university presidents favor such support. Likewise, the dental school deans endorse Federal aid.

CONCLUSION

The legislation to which we are addressing our comments, namely H.R. 4999, would provide annually for 10 years $15 million in grants on a matching basis for construction of new dental teaching facilities and $15 million matching grants for replacement or rehabilitation of existing teaching facilities in schools of dentistry, medicine, and public health. The American Dental Association strongly supports this much needed Federal aid.

H.R. 4999 also includes provisions for scholarship grants to dental schools to be allocated to dental students in a manner which seems eminently reasonable to the American Dental Association. In addition to the scholarship grants, there would be cost of education payments to the schools to make up the deficit between the scholarship grants and the actual cost to the schools for educating students receiving those scholarships. The association favors the utilization of Federal funds for this purpose, provided such aid does not affect admission policies of the schools or the content of the curriculum.

The association also support the provision of H.R. 4999 which would strengthen and expand the program for grants to assist in the construction of health research facilities.

The American Dental Association reaffirms its recommendation that this committee report favorably on H.R. 4999.

APPENDIX

1. Medical school inquiry, staff report to the Committee on Interstate and Foreign Commerce, House of Representatives, 85th Congress, 1st session (committee print).

2. U.S. Department of Health, Education, and Welfare, Office of the Secretary. "The Advancement of Medical Research and Education Through the Department of Health, Education, and Welfare: Final Report of the Secretary's Consultants on Medical Research and Education, 1958" (the Bayne-Jones report).

3. U.S. Department of Health, Education, and Welfare, Public Health Service. "Physicians for a Growing America: Report of the Surgeon General's Consultant Group on Medical Education, 1959" (the Bayne report).

4. Subcommittee on Departments of Labor, Health, Education, and Welfare, of the Committee on Appropriations, U.S. Senate (86th Cong., 2d sess.). "Federal Support of Medical Research: Report of the Committee of Consultants on Medical Research," 1960.

5. American Council on Education, Commission on the Survey of Dentistry in the United States, "The Survey of Dentistry," 1961.

The CHAIRMAN. At this point, do you have any further statement, Dr. Timmons?

Dr. TIMMONS. No, Mr. Chairman, we shall be happy to attempt to answer any questions that the members of the committee might have.

The CHAIRMAN. Thank you very much.

Mr. Friedel?

Mr. FRIEDEL. I have no questions. It was a fine statement.

The CHAIRMAN. Mr. Younger.

Mr. YOUNGER. Dr. Timmons, in regard to the medical schools, one of the reasons advocated why we should do something is because of the number of doctors being graduated in Russia. How about dentistry in Russia? Do you know anything about that?

Dr. TIMMONS. Mr. Younger, it happens that I was accorded the privilege of spending a month in the Soviet Union this past summer. I was assigned on a commission that went over to look at the dental situation in the Soviet Union. The mission of which I was a member visited the representatives of Russia, the Ukraine, and Georgia, and several different cities, Moscow, Leningrad, Kiev, Bileski, Soche. We were given the opportunity of looking at their educational program and looking at the operation of the results of their dental education program.

The whole situation to me was one of the most incongruous, paradoxical, enigmatic things that I ever saw in my life. You kept saying to yourself all the time as you saw these things that this is the nation that put a man in orbit. The dental situation is that they admit to having 216 million people in the Soviet Union. In 1917 they had about 5,000 practicing dentists—practitioners of dentistry in the Soviet Union. Currently they have 45,000 "dentists" to take care of 216 million people. The educational program of Russia in dentistry is at two levels. They educate a person that they call a dentist in a period of 3 years. Then they educate a person that they call a stomatologist, who also has responsibility in a health area in a period of 5 years. Neither of these educational programs is carried on as a university discipline, as it is in our country. Most of them or all of them are carried on in what is known as the medical institutes of the Soviet Union.

Of the 45,000 "dentists" they have there are 29,000 of them who have had but 3 years of education. The remaining 16,000 of the 45,000 have had the 5 years of education. Quite frankly, it was difficult for me in examining the mouths of the patients whom I saw to in any way differentiate from those who had had 5 years of education and those who had had 3 years of education. It has been my privilege to see dentistry in several foreign countries. Of the dentistry that I have observed in the foreign countries there is nothing that will compare with Russia. It is without a doubt the poorest that I have ever seen.

The concept of a dental health service does not begin to approach the concept of a dental health service of the United States. The training of the persons charged with the responsibility of rendering that service does not begin to compare with the education of the persons in the United States who are charged with that responsibility. A treatment that a patient receives at the hands of an operator is something that I certainly would not want to undergo, myself. I could elaborate at considerable length on it. I can only summarize by saying that compared to what we have in the United States they have a very, very long path to travel.

Does that answer your question?

Mr. YOUNGER. Yes, thank you very much. I am glad to have that in the record.

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The CHAIRMAN. Mr. Rhodes.

Mr. RHODES. Mr. Chairman, the need for legislation posed in your bill is made quite clear by the evidence of these medical and dental school deans who have come here to testify. I wish to commend them for their interest in seeking effective means for meeting the shortage of physicians and dentists and in giving the best possible service to our people. I am pleased to see among those here today Dr. Gerald Timmons who is associated with Temple University, which is in my State. I feel that it is one of the finest medical and dental schools in the country. I say that not only because it is in Pennsylvania but because of personal experience with the college since my son is a graduate of the medical school at Temple. Dr. Timmons has been honored recently in being selected to head the Medical-Dental Association. I have a few questions for you, Dr. Timmons.

In your opinion, doctor, what does the dental education program need most? Funds for construction? Funds for scholarships? For dental students? Or funds for operation of the course of the school?

Dr. TIMMONS. Mr. Rhodes, the policy of the American Dental Association has been established that in our opinion the greatest priority is brick and mortar. We need the money for the construction of facilities in which to teach dental students.

Mr. RHODES. Thank you. Doctor, what had led the American Dental Association to conclude that the Federal Government has an obligation to assist in financing dental education?

Dr. TIMMONS. Well, the magnitude of the problem in the first place is very, very great. We have had little success in attempting to interest the legislators or the legislatures of the several States in carrying out the program that has been advocated. I was interested in listening to some of the testimony that went on here this morning, the questions that were asked by Mr. Dominick of Colorado in that for some time they have been attempting to get a dental school in Colorado and it has been, up to date, impossible for them to get the funds from the Legislature of the State of Colorado. Yet there is not a dental school, after you leave Kansas City, until you get to the city of San Francisco.

Mr. RHODES. We are aware, Dr. Timmons, that a considerable number of foreign trained physicians come into the United States to practice medicine each year. Is there a substantial number of foreign trained dentists entering the United States?

Dr. TIMMONS. Very, very few and those that do come have not been permitted to practice dentistry in the United States until such time as they have taken additional education in the dental schools of the United States. The level of dental education, particularly in the sections of Europe that have been most greatly affected as a result of the war, that is Central Europe, is of such a nature that the persons in dentistry do not feel that these people are qualified to render a high quality dental health service to the public without having further training.

Mr. RHODES. Are many American boys attending foreign dental schools and returning to the United States to practice dentistry?

Dr. TIMMONS. Very very few, and those who do are not eligible for the State board examinations until such time as they have graduated from a dental school that is accredited. The quality of educa-

tion that they have received in foreign schools is of such a nature that they cannot take the examination for license until such time as they have had further education.

Mr. RHODES. Is it not practically impossible for dentistry and dental education to do all that is needed in the next 10 years to keep pace with our expected population expansion, for example, adding 250 graduates each year for 10 years and building 22 new dental schools in the next 10 years? What else can be done and what alternatives are there?

Dr. TIMMONS. I think the dental profession as a whole in the past few years, in the past several years, has been turning its attention to problems in the area of research that would reduce the incidence of dental disease.

As an example I would call to your attention the great progress which has been made by the fluoridation of communal water supplies. It has been shown on the basis of research that was done in Kingston, N.Y., with the control in Newburgh, and what has been done in Grand Rapids, in Branford, Ontario, and in other areas, that we have brought about a diminution of the incidence in dental caries in mouths of our children that in some instances have gone to as high as 65 percent. We think that the dental profession through its research has made a great contribution. As you gentlemen probably know, we are meeting with great resistance in areas and in many instances have lost—in the city of Allentown I would call to your attention we lost a referendum in Allentown because the citizenry of Allentown voted not to avail themselves of this health measure through the fluoridation of the communal water supply.

Mr. RHODES. I am aware of that.

Mr. FRIEDEL. Doctor, we had the same problem in Baltimore City. It was a long, long fight before we succeeded. I was a member of the city council when we finally approved fluoridation for Baltimore.

Dr. TIMMONS. In the city of Philadelphia while Senator Clark was the mayor of Philadelphia we introduced fluorin salts into the communal water supply in the city of Philadelphia and the figures have shown that we have had a 40-percent diminution in the incidence of dental caries in the mouths of our schoolchildren that have periodic examinations. Also there has been a diminution of about 47 percent in the necessity for extracting 6-year molars which in the opinion of the dental profession are as important teeth as a child can have in his mouth.

Mr. RHODES. Thank you very much, Dr. Timmons. That is all, Mr. Chairman.

Mr. THOMSON. I was wondering whether that void between Kansas City and San Francisco is explained by the fact that there are natural fluorides in the water in that area?

Dr. TIMMONS. Well, Mr. Thomson, I do not think that is the whole answer. I think that I said the diminution is only 40 percent which leaves 60 percent and that 60 percent can be a pretty painful percent. Also, the needs of the adult persons, and there I think again dentistry deserves a great deal of credit because we are now, through the research that has been done in peridontal disease, maintaining the teeth in the mouths of our elder citizens to an extent we never did before.

Back when I was a youth growing up when anybody got as old as I am he was expected to have full upper and lower dentures. I have almost reached it. I have a full upper and partial lower, but the research that the dental profession has done has kept these teeth for me as they have kept them for a great many other people. That adds to the load of the dental profession. I realize that you asked that question in a facetious manner but I think the distribution of population in the United States had considerable to do with the geographical location of the dental educational institutions.

Mr. THOMSON. Are you familiar with the Marquette University Dental School in Milwaukee?

Dr. TIMMONS. Yes, sir.

Mr. THOMSON. We are proud of that in Wisconsin. They have been rendering a very fine service for many years. It is, by the way, a private institution. It is not receiving tax support.

Dr. NAGLE. I might say recently they were able to expand through receiving a health research facility grant.

Mr. THOMSON. I know that Dr. Hirschbeck was here from Marquette. Of course, Marquette is the largest Jesuit university in America. Many people don't realize that that is a fact but I think it is. I am aware of the problems they are having in raising funds.

Dr. TIMMONS. They have not only contributed to the needs of Wisconsin but I think an analysis of the persons enrolled in Marquette will show that they have also contributed greatly to the States which do not have dental schools. It is much the same as my own school in that in our student body we have 21 States represented in our total student body although the majority of our contributions are being made to the Commonwealth of Pennsylvania, yet we are contributing to a great many States that do not have dental schools of their own, as is true in Dr. Nagle's school, as is also true in Dr. Burket's school. I would like to call to your attention, Mr. Rhodes, since you mentioned Pennsylvania, that I, as the dean of Temple, am very sorry that the dean from the University of Pennsylvania, my own city, is not here sitting with me. He happens to represent another organization but there is a more amiable condition existing between the two schools than would be indicated by us being separated now.

Mr. RHODES. Also a very good school.

Dr. TIMMONS. Yes.

The CHAIRMAN. Doctor, if the construction phase of this would not produce any facilities available for students for at least 3 years, why should you have a scholarship provision provided by this proposal during the interim 2 years?

Dr. TIMMONS. I think the same reasons would prevail as I heard presented here by representatives of the American Association of Medical Colleges. I think the student that is in the stage of making up his mind as to what he wants to do would be greatly reassured if he had some assurance that there would be a possibility of his entering into a dental career. I noticed one question was asked of Dr. Anderson. I repeatedly am called upon as the dean of a school to interview students who are in the liberal arts college who are attempting to make up their minds. I have had repeated instances in which when it is called to their attention as to the cost of dental education, they say: "There is no use for me to consider it—I can't go on with it."

So I think that if this incentive was held out at this particular time it would give him the opportunity during his liberal arts education to so direct his education as to permit him to be entered into a medical or dental school.

The CHAIRMAN. Then the answer to the question, I assume, is that you would very likely get a lot of better qualified applicants than you are receiving now?

Dr. TIMMONS. Yes, I think that is perfectly true.

The CHAIRMAN. Even though now you are getting all the applicants that you can take care of?

Dr. TIMMONS. Well, in numbers we are getting sufficient applicants but the quality of the applicant that is applying has consistently dropped. In other words, the boy that is applying is not as good a student as we would like to have apply.

The CHAIRMAN. Then the major argument for the scholarship provision at this time is an effort to improve the quality of the applicants?

Dr. TIMMONS. Yes.

Dr. NAGLE. I think on that point I might bring out also the early activation of such a program is something that we can anticipate a renewal of the quality and quantity that we did see and had the advantage of immediately following World War II when the students had the advantage of this GI bill of rights. Also, the cut in quality has dropped in such a way that it is giving us great concern. This would be one way of attracting students to study dentistry who would be of a better quality. It may also change the ratio between the large urban applicants and those from rural areas. The rural student is very frequently at an economic level that does not permit an education in an area that is so expensive. These are things that would point in the direction of the advantages of early activation of this program.

The CHAIRMAN. Is there any information or figures as to what the total cost of medical and dental care is to our people on an annual basis?

Dr. TIMMONS. Mr. Conway says we can supply that to you.

The CHAIRMAN. I wish you would supply that information.

(The information referred to follows:)

Private expenditures for medical care: Amount and percent distribution by type of service, 1960

Type of expenditure	Amount (in millions)	Percent
Total	$19,566	100.0
Hospital care	5,324	27.2
Physicians' services	5,090	26.0
Dentists' services	1,992	10.2
Drugs and drug sundries	3,930	20.1
Eyeglasses and appliances	1,219	6.2
Other professional services	886	4.5
Home nursing care	280	1.4
Health insurance, net cost	845	4.3

Source: "Private Medical Care Expenditures and Volunteer Health Insurance 1948-60," Louis S. Reed, Social Security Bulletin 1961, Department of Health, Education, and Welfare.

The CHAIRMAN. Now, would you care to comment on what might be saved, if anything, in the total cost of our medical and dental bills in the country if there were adequate assistance given to the American people while they are children?

Dr. TIMMONS. I don't think I can answer that question as to whether it would lower the cost or not.

The CHAIRMAN. You would not care to comment then on whether or not as an example, a youngster who has had opportunity to give adequate attention to his dental needs would be saved in his later years of life the cost of some dental care that he would have otherwise?

Dr. TIMMONS. Yes, on the maintenance base it has been definitely proven that if maintenance care is rendered to a patient the total cost is much less than a catastrophe cost.

Dr. NAGLE. I think there is another factor in there too, Mr. Harris, that through some of the results of the greatly expanded research program in the past 10 years that dental disease is being better controlled. We anticipate too that as a result of the fluoridation of the communal water supply that these youngsters who have had the advantage of this will not need the expensive dental care later in life. This could carry through into the aging patient.

The CHAIRMAN. I hope we don't get too far into this subject of fluoridation.

Dr. TIMMONS. I think another answer to that is the statistics which have been compiled on the basis of experience that we now have had in the dental insurance programs, there are some programs in operation in the United States in which persons are able to purchase dental insurance. The experience which has been had has shown that comprehensive childhood care has resulted in a lesser expense—a lesser expenditure of funds over a period of years than to wait for catastrophic treatment.

The CHAIRMAN. There are 47 dental schools now?

Dr. TIMMONS. Yes, sir.

The CHAIRMAN. And two new ones coming in operation?

Dr. TIMMONS. Yes, sir.

The University of Kentucky will admit new students this coming fall and the University of California is opening a new dental school at the Los Angeles division.

The CHAIRMAN. Forty-nine schools in how many States?

Dr. TIMMONS. There are 28 of the current 47 schools in private institutions, but 19 of them are in State institutions.

The CHAIRMAN. The 47 schools now operating are located in 28 States?

Dr. TIMMONS. In 28 States, yes.

The CHAIRMAN. With the other 2 there will be 30 States then?

Dr. TIMMONS. No, because the two States that are starting new schools now have dental schools. In other words, the University of Louisville has been in operation in Kentucky for a long period of time and the new dental school at the University of California, Los Angeles Division, will be the fifth dental school in the State of California.

The CHAIRMAN. Is it contemplated under this program that there will be some new dental schools?

Dr. TIMMONS. The statistics are compiled on the basis that there will be that many schools needed in order to supply the needs.

The CHAIRMAN. Do you know, in what States that need exists?

Dr. TIMMONS. Preliminary studies have been made. As I heard Secretary Ribicoff mention this morning, under consideration right now is a dental school in the State of Connecticut. A dental school is under consideration in the State of Florida. One is under consideration in the State of Colorado and with possibly another under consideration in the State of Massachusetts which already has two, and South Carolina which at the time does not have any.

The CHAIRMAN. I would like to see my State of Arkansas get included in that list.

Dr. TIMMONS. Well, you have some good dentists in Arkansas who have been active in this program.

The CHAIRMAN. I am well aware of that. Thank you very much, gentlemen, for your presentation here. We appreciate the information you have given us, and the booklet "Dentistry in the United States" will be received for the files and information of the committee.

Dr. TIMMONS. Thank you very much. Thank you for the privilege of appearing.

(Additional information submitted for the record:)

MATERIAL ON DENTAL EDUCATION SUBMITTED BY PUBLIC HEALTH SERVICE

DENTAL SCHOOL APPLICANTS, ADMISSIONS, AND VACANCIES

The number of students applying for admission to dental schools has fallen sharply in the past few years. In 1960, there were only 5,200 applicants, or 1.4 for every applicant accepted. Four years earlier, there were 7,400, or 2.1 for every applicant accepted for admission.

The average dental student of the past 5 years has applied for admission to at least 4 schools. Some schools however, receive as many as 15 applications for each freshman position available, while others receive as few as two. Even so, nearly all schools have been filled to capacity or have had only the occasional vacancy which results when a student delays too long in notifying a school of his intention to enroll elsewhere. In 1960, there were 175 unfilled freshman places, of which 105 were in 5 schools. The majority of all vacancies occur in high-tuition schools located in States which have more than one school.

School year	Number applying for admission			Number of applications			Unfilled freshman places
	Total	Number accepted	Per accepted applicant	Total	Per applicant	Per accepted applicant	
1960-61	5,200	3,648	1.4	(1)	(1)	(1)	164
1959-60	6,498	3,573	1.8	14,950	2.3	4.2	175
1958-59	6,469	3,607	1.8	15,566	2.4	4.3	(1)
1957-58	7,286	3,600	2.0	16,172	2.2	4.5	(1)
1956-57	7,376	3,561	2.1	16,475	2.2	4.6	(1)
1955-56	7,205	3,445	2.1	15,222	2.1	4.4	(1)

[1] Not available.

Sources: Data for 1960-61 from "Trends in dental school and dental hygiene school enrollment", JADA 62:211-3, February 1961. Information for all other years from American Dental Association. Unpublished data.

DENTAL SCHOOL ENROLLMENT, GRADUATES, AND DROPOUTS

The number of students dropping out of dental school prior to graduation has risen steadily over the past 5 years. From a low 6.4 for the class of 1956, the percent dropping out has risen to 8.6 for the class of 1960. Information is as yet incomplete for the class of 1961, but current indications are that dropouts

have risen still further. Reports from the dental schools indicate that financial difficulties account for by far the majority of all dropouts.

School year	Number enrolled	Number graduated	Number dropping out prior to graduation	Percent of those entering
1960–61	13,580	(1)	(1)	(1)
1959–60	13,581	3,253	308	8.6
1958–59	13,509	3,156	289	8.4
1957–58	13,279	3,083	246	7.4
1956–57	13,004	3,050	224	6.8
1955–56	12,730	3,038	206	6.4

[1] Not available.

Source: American Dental Association; dental student registers.

STATUS OF DENTISTS IN 1960

At the present time, about one dentist in every eight is retired. Of an estimated 12,670 dentists who were no longer in practice in 1960 approximately 6,900 had retired within the previous 5 years. Total losses from active practice over the 5-year period included, in addition to the 6,900 retirements, an estimated 2,400 deaths, or 9,300 in all.

Activity	*Number of dentists*
All dentists	[1] 101,900
Retired	12,670
Active	89,230
Active dentists:	
Non-Federal	82,630
Specialists	3,930
Other	78,700
Federal	6,600
Specialists	240
Other	6,360
All specialists	4,170

[1] Excludes 3,250 dentists graduated in 1960.

THE DENTAL HEALTH BILL AND THE EFFECT OF ADEQUATE CHILDHOOD CARE

Private expenditures for dental care were estimated by the Department of Commerce at approximately $2 billion for 1960. Since this level of expenditures represents a standard under which almost 60 percent of the population get no dental care at all in the course of a year, it is unlikely that expenditures could be reduced even if all people were to have adequate care in childhood. Instead, the total dental bill would probably rise even more rapidly than is presently anticipated. If per capita demands for care continue to rise at the rate of the past decade, the amount spent for dental care can be expected to reach the $5 billion level within about 15 years, provided that sufficient services are available.

What could be accomplished if adequate care were received in childhood would be a better standard of dental health throughout life. If fewer teeth were lost or damaged during childhood, more people would reach maturity with teeth which warrant preventive care. Later on, when rehabilitation became necessary, full mouth reconstruction would be more frequently indicated. Periodontal treatment, bridges, and partial dentures would continue to be indicated for many people long after they reach an age which finds their counterparts today completely without natural teeth.

Since at present 3 in 10 people past the age of 35 and more than half of those past 55 are completely edentulous, adequate childhood care would probably add to the patient roster vastly increased numbers of people in their middle and later years. For the average person, then, receiving adequate dental care in childhood might well mean greater expenditures over a lifetime, and for the population as a whole, it would unquestionably mean many more consumers of dental services in every year.

OPERATING REVENUE FOR EXPANDED DENTAL SCHOOL FACILITIES

Since most dental schools are hard pressed to meet even their current operating expenses, the financing of expanded facilities will be extremely difficult. However, probably at least a third of the cost of educating additional students will be recovered in the form of tuition and fees and in added clinic income. And, judging from previous experience, State legislatures or other sponsoring bodies will make substantial contributions, as will parent universities. The grants available under this bill will not only act to stimulate this additional investment in dental education but will also provide the added measure of support needed to guarantee that expansion is not achieved at the expense of the quality of instruction.

Dr. NAGLE. Thank you, Mr. Chairman.

The CHAIRMAN. Now at this time we are going to take Rabbi Lieberman. Dr. Burket, will you be here tomorrow?

Dr. BURKET. I had not planned on it, Mr. Harris. I could be.

The CHAIRMAN. How much time would you require to present your statement, Doctor?

Dr. BURKET. I could summarize it perhaps in 10 minutes at the most.

The CHAIRMAN. Well, I think you had better come around then. Come ahead. Rabbi Lieberman, we will take you next.

STATEMENT OF DR. LESTER W. BURKET, DEAN, SCHOOL OF DENTISTRY, UNIVERSITY OF PENNSYLVANIA, AND PRESIDENT, AMERICAN ASSOCIATION OF DENTAL SCHOOLS

Dr. BURKET. Mr. Chairman, members of the committee, with your permission, I would like the privilege of having the statement filed. I will summarize it briefly since I know the hour is late and the most effective testimony that I can give at this time perhaps would be the briefest.

(The formal statement referred to follows:)

STATEMENT OF DR. LESTER W. BURKET ON BEHALF OF THE AMERICAN ASSOCIATION OF DENTAL SCHOOLS

I am Dr. Lester W. Burket, dean of the School of Dentistry, University of Pennsylvania, and president of the American Association of Dental Schools. The association which I represent has a long and consistent record of support of the principles contained in the various legislative proposals for aiding health education which have been introduced in this Congress. I am, therefore, pleased to have this opportunity once again to outline the position of the American Association of Dental Schools on various proposals for Federal assistance to dental education and, specifically, on H.R. 4999, introduced by Mr. Oren Harris.

INTRODUCTION

Over the past decade and a half there has been a marked awakening within dental education and within the dental profession at large to the problem of providing the quantity and quality of dental health care that a rapidly expanding and increasingly health-conscious American population demands and expects. In a forthright attempt to meet the challenges of modern-day social progress, dental educators and dental practitioners, through their organizations, have spear-

headed on a broad front the efforts to control dental diseases and extend the availability of dental care.

Over a very brief period, extremely significant achievement has been made. Dental research, concentrated in dental educational centers, has advanced at a heartening rate, bringing with it new perspectives in the fields of prevention and treatment of dental diseases and new and improved standards of dental teaching and dental education generally. Since as recently as 1956 when the National Congress first made a beginning toward providing financial support on a realistic basis, the dental research programs in the schools have multiplied many times over. Funds available for this purpose are at last beginning to approach an equation with the need and the seriousness of the dental disease problem. Although these programs are still in their infancy, the public already has received a rich return on the expenditures that have been made.

Yet, much more remains to be done both in dental research and in other critical areas that have been neglected. The manpower shortage, both in teaching and in dental practice, looms as the foremost obstacle to continued progress in dental health. The capacity to produce dental teachers, researchers and practitioners continues to be outpaced by the explosive production of new generations of health-aware Americans. The acute need for additional personnel has been established. Study upon study by responsible Government (1,2,3) and private groups (4) has pointed up and documented the critical nature of the situation.

The President of the United States in his health message to Congress last year recognized the seriousness and magnitude of the problem when he stated:

"We have now 92 medical and 47 dental schools. These graduate only 7,500 physicians and 3,200 dentists each year. If during the next 10 years the capacity of our medical schools is increased by 50 percent and that of our dental schools by 100 percent, the output will still be sufficient only to maintain the present ratio of physicians and dentists to population.

"To do this we must have within the next 10 years substantial increases in enrollment in existing schools, plus 20 new medical schools and 20 new dental schools."

In thus focusing national attention on the need for increasing dental personnel, the President was echoing the forewarnings that have emanated in increasing volume from dental education and the dental profession over the last several years.

In his message to Congress on January 11, 1962, President Kennedy again referred to this serious problem in the following words:

"To relieve the critical shortage of doctors and dentists, and expand research, I urge action to aid medical and dental colleges and scholarships and establish new national institutes of health."

The American Association of Dental Schools believes firmly that unless specific action is taken immediately and with vigorous purpose, the size and the rate of growth of the problem will reach insurmountable proportions.

There must be prompt action to provide funds for additional and improved dental educational facilities. In addition, there must be provided increased financial support for dental schools and dental students to help meet the already high and steadily rising costs of educating dental personnel. Dental educators will continue to seek expanded support from all sources but, in the belief that the health of the American people is as surely a national asset as any segment of today's society, the association wishes to urge prompt approval of the programs presented in H.R. 4999.

GRANTS FOR CONSTRUCTION OF DENTAL TEACHING FACILITIES

On the basis of all major studies of dental manpower projections, it is apparent that the number of dental graduates must be nearly doubled within the next 15 years if we expect to keep pace with the expanding population and the increase in demand for dental services. The accomplishment of this formidable objective will demand an immediate increase in the capacity of existing institutions and the construction of many new dental schools. It is certain that the degree of expansion needed cannot be achieved with the resources of local and State funds alone; there must be liberal assistance and encouragement from the Federal Government if we are to meet this impending national health emergency.

The American Association of Dental Schools is on record as favoring Federal legislation which would provide funds for use in the construction of dental teaching facilities. It is felt that the Federal support should be based on a

matching formula which is realistically designed so that the Federal Government shall supply the major portion of such funds. As a further indication of the attitude of dental educators on this important potential Federal legislation, the association emphasizes that any legislation in this area should include provision for the rehabilitation of existing institutions as well as the construction and equipping of new or expanded dental education facilities.

We are pleased to see that H.R. 4999 makes provision in section 721(c)(3)(B) for the construction of expanded training facilities as well as the building of new dental schools. The association believes that the investment of Federal construction funds in those institutions which have, over the past 14 years, spent nearly $80 million for the construction and equipping of their educational facilities is a sound investment. These schools, the 47 dental schools now in operation have reported plans for nearly $150 million in construction expenditures during the next 10 years, if Federal matching funds are made available. The expansion of existing facilities in this amount would provide for an additional 725 dental graduates a year by 1970 and would contribute considerably to meeting the projected manpower needs by that time.

In addition, the construction plans for existing dental schools during the next 8 years would provide training facilities for greatly increased enrollments of auxiliary personnel. A recent survey of the dental schools indicates that the planned $150 million construction expenditure would permit the training of 915 additional dental hygienists each year, would increase the production of chairside assistants by 714 a year, and would add over 300 more dental laboratory technicians annually. By performing duties for which they have been specially trained, these auxiliary personnel relieve the dentists of many tasks to which he would otherwise have to devote his time, thereby increasing the productivity of the dentist. Definitive studies on the impact of dental auxiliaries on the productivity of the dentist are still in process, but it is known that the efficient use of a single chairside assistant can increase the treatment capacity of the dentist by about 50 percent. Thus, the training of an additional 750 dental assistants a year can be expected to reduce materially the number of new dental graduates needed by 1975.

The additional manpower which can be expected from the expansion of existing institutions, the increased productivity which will inevitably come from more effective and broader utilization of auxiliary personnel, and the reduction of the incidence of dental disease which can be anticipated from the constantly expanding research programs will still not, in the minds of responsible authorities, be sufficient to meet the dental care needs of the population in the years ahead. We must find the resources to construct additional dental schools and to expand the capacities of existing institutions.

The association urges that there be no further delay on this section of H.R. 4999. It is estimated that 3 to 4 years of planning time is required for the inauguration and construction of a new dental school. Add to this the 4 years required to educate the dental student, and it is obvious that those plans which are started next year will not produce dental practitioners until 1968 or 1969. It is increasingly urgent, therefore, that favorable consideration be given to construction grant legislation which has appeared in Congress during nearly every year of the past decade.

Recent studies made by the American Association of Dental Schools and the American Dental Association, in cooperation with the Division of Dental Public Health and Resources of the Public Health Service, suggest $6 million as a reasonable cost for constructing and equipping a school of dentistry today. The association has been acquainted with fairly definite plans for the construction of three new dental schools, and it is highly probable that the availability of Federal construction grants would encourage action by at least four other universities which have given some thought to dental education during the past 4 or 5 years. On the basis of information presently available, it is estimated that 10 to 12 new dental schools might be established or started within the next 10 years, if legislation such as proposed in H.R. 4999 is adopted.

In final comment on part B of H.R. 4999, "Grants for construction of medical, dental, osteopathic, and public health teaching facilities," the association would like to give wholehearted endorsement to the plan to establish a National Advisory Council on Education for Health Professions. The experience which dental education has had with the excellent administrative mechanism in existence at the National Institutes of Health suggests that the careful selection and effective utilization of a National Advisory Council is one of the best means of assuring the proper relationship between the Federal Government and higher

education. I would also like to record the association's support of section 728 (technical assistance) and section 729 (planning grants for medical, osteopathic, dental, or professional public health education programs) as essential parts of an effective construction grant program.

SCHOLARSHIP GRANTS

Close to the top of the list of problems facing dental education today is the difficulty of obtaining sufficient numbers of well-qualified students to enter the study of dentistry. The following figures show the trend in the number of applicants to dental schools during the past 5 years:

Year	Number of applicants	Number accepted	Applicants per acceptance
1960	6,119	3,616	1.7
1959	6,498	3,573	1.8
1958	6,469	3,607	1.8
1957	7,286	3,600	2.0
1956	7,376	3,561	2.1

It will be observed that the ratio of applicants to accepted students has decreased steadily during this period to the point where it reached a 15-year low in 1960.

In the fall of 1960 there were 28 dental schools which did not fill their first-year classes. On a national basis, there were about 164 vacancies in the dental schools in the country last fall and there is reason to believe that this situation will be at least as serious this fall.

This condition is the result of many influences. An expanding economy with more scientific and technical fields of employment, a decrease in the number of college students until 4 or 5 years ago, and—perhaps most important of all—the steadily increasing cost of dental education, have all contributed to the shortage of well-qualified dental applicants. The American Association of Dental Schools, along with other agencies of the dental profession, is engaged in several programs of recruitment for dental education. The combined investment of the dental profession on recruitment activities this year will amount to thousands of dollars. We are convinced, however, that all of these efforts toward recruitment will be only partially successful so long as the economic barrier to the study of dentistry exists for such a large portion of our well-qualified young people.

Dental education requires a minimum of 6 years of education beyond high school: 2 years of preprofessional study and 4 years of dental school. At graduation, the new dentist must invest at least $7,000 for the establishment of his private office. On the basis of recent information, the college student contemplating the study of dentistry must plan to invest a minimum of $22,000 before he accepts his first patient—and the national average exceeds $26,000.

There is no way to state precisely the number of students who might have considered dental education had this formidable economic investment not existed. We do know, however, that even those students who are enrolled accrue a substantial debt by the time of graduation. Sixty-seven percent of the dental school seniors have an average debt of $4,500, with one-third of these owing more than $6,500 by the time they are graduated.

In considering the financial problems of dental students, educators have supported the need for both scholarship and loan funds. Although still inadequate, there has been an increase in the amount of loan funds available for students of dentistry through such programs as the National Defense Education Act of 1958 and the Fund for Dental Education, Inc., a nonprofit private agency supported by the dental profession, the dental industry, and other groups interested in the dental health of our people. We do not believe, however, that loan funds alone will solve the increasing financial problems of dental students. We do not believe that the health professions can expect to recruit the quality of students which they must have in the face of increasing scholarship and fellowship support for nearly all segements of higher education in the physical and social sciences. We do not believe that the children of families with an annual income of six or seven thousand dollars can and will embark on an educational program which will cost them 6 to 8 years and $22,000 to $26,000 unless they can be assured

of both scholarships and loan assistance while they are preparing themselves to serve the public.

At the present time, scholarship funds for dental students are extremely limited, with less than $600,000 awarded last year by all dental schools for their entire student bodies. This amount was granted to slightly more than 1,200 dental students (9 percent of the enrollment) making an average award of slightly less than $500. When it is realized that the average cost of 4 years of dental education today is over $15,000 it is readily apparent that existing scholarship funds are totally inadequate. As an additional facet of this problem, I would like to return to the observation that the survey information which we are able to obtain is necessarily based on those students who are enrolled in the dental schools. It is obvious that many of these students are in serious need of much greater financial assistance but these statistics do not identify the excellent students and scientists who have been lost to dental education because of their inability to carry the heavy financial burden of preprofessional and professional education.

A later section of this statement will show that about $11½ million of the 1959 operating expenses of the dental schools came from tuition and fees paid by students and their families. A similar amount was provided by State appropriations, about $6 million came from university funds and the patients who received treatment in the clinics of the dental schools contributed nearly $7 million to the conduct of dental education. These private and State funds in an amount approximating $36 million in 1959—a figure which is increasing each year—provided the major part (84 percent) of the cost of educating dentists for the entire population of the United States, including the members of our Armed Forces throughout the world. An investment of about $3½ million a year in dental education by the Federal Government, as proposed in H.R. 4999, to help assure the possibility of dental education to more of our young, intelligent students surely cannot be considered other than a proper participation of our National Government in a critical aspect of national welfare.

The committee is well aware of the great benefit which has been realized from the support which such agencies as the National Science Foundation, the National Institutes of Health, and the Office of Education have given to graduate students in many of the scientific disciplines. The programs of these agencies are deservedly receiving increased support from Congress. It is our belief that graduate education in preparation for one of the health professions, which dental education surely is, needs and deserves Federal assistance in the form of scholarships if we are to assure the level of dental education, research, and service which we all want for the people of this country.

The American Association of Dental Schools gives its strong support to the scholarship grants, section of H.R. 4999.

COST OF EDUCATION PAYMENTS

The "Survey of Dentistry," to which I have already made reference, states that "lack of proper financing is the most serious problem of dental schools today." I feel confident that dental educators would support this statement with heartfelt enthusiasm. If this statement is valid, as I am certain it is, it would then seem reasonable to suggest that the availability of adequate financing will become an even greater problem in the years ahead as the existing dental schools expand their enrollment and as new schools are established. I would like to cite a few figures to identify some of the financial problems with which the dental schools are now faced, keeping in mind that all of these financial shortages are certain to grow worse as enrollments are increased—unless additional operating funds can be found promptly and in substantial amounts.

In 1958–59 the mean salary of all full-time dental teachers was $8,568, compared to the mean net income of $14,311 for all nonsalaried, practicing dentists in 1958 (4). Keezer, in "Financing Higher Education," (5) estimates that college and university salaries will need to be increased by at least 100 percent in the next decade, which means that the $15,600,000 spent for faculty salaries in 1959 will have to be increased to at least $31 million by 1970. Other operating expenses of the dental schools in 1959 were reported as $27,700,000 and it has been estimated that these expenses will increase by at least 50 percent in the next 10 years. This would mean an additional need for at least $14 million.

The following quotation from the "Survey of Dentistry" presents similar projections of the financial dilemma of dental education in terms of the cost of education for a single student:

"Based upon projected annual expenditures of approximately $75 million, the average total cost per student per year to the schools would increase from approximately $3,000 in 1958–59 to approximately $5,000 in 1970. This average annual cost to the universities of $5,000 per dental student appears to be a realistic estimate for the coming decade when it is noted that the average cost per student in 1958–59 in the 10 best supported dental schools was approximately $6,400. The 10 schools with the lowest cost per student averaged approximately $1,860 in 1958–59, and, obviously, these schools are in serious need of financial help.

"Actually, a projected basic annual operating expense of $5,000 per dental student by 1970 may be a rather conservative estimate. In the academic year of 1949–50, the median basic operating expense per student for all 40 schools then in existence was $1,316. In 1958–59 the average was $2,967, or an increase of 125 percent in 9 years. If a comparable increase were to take place between 1959 and 1970, the average annual cost per student would be over $6,000" (4).

In 1959, the total operating expenses of the 47 dental schools were slightly over $43 million, obtained from the following sources in the indicated amounts (4):

Source of income	Amount	Percent
State general appropriations	$12,000,000	27.7
Tuition and fees	11,484,000	26.5
Clinic income	6,994,000	16.1
University transfer (private funds)	5,317,000	12.3
Research grants	5,062,000	11.7
Private gifts	1,353,000	3.1
Endowment income	716,000	1.7
Donated teaching services	374,000	.9

Of the $3,000 a year average cost for the education of one student, the student paid about $800 in 1959 and the balance came from the sources cited in the table above. It is reasonable to expect that there will be moderate increases in the support which dental education will receive from State appropriations and private sources, although it is generally accepted that the increased financial demands which are being placed on all of higher education will make support for all divisions of the university more difficult to secure in the years ahead. Dental educators agree unanimously that appreciable expansion of operating income should not be expected from clinical operations, and there are few who would recommend that the dental student be called upon to pay a much greater part of the cost of his education. Where are the funds to be secured to pay the increasing costs of dental education and to permit the expansion of enrollment to which I have referred earlier in this statement?

The American Association of Dental Schools has expressed its belief that the Federal Government has a proper concern to aid in meeting the very difficult problems of providing the dental manpower needed by the citizens of the United States.

The proposals contained in H.R. 4999 would help but it should be observed that the cost of education payments would represent only 7 percent of the investment made in dental education in 1959 by private and State sources. There are, we believe, many excellent examples of the contributions which the Federal Government has made and is making in this important area of national health and welfare. Under acceptable provisions which would assure the continued management and control of all aspects of dental education programs by the administration of the individual dental schools, the American Association of Dental Schools would in principle, look with favor on a program of direct Federal aid for the operating support of the schools of dentistry. In reaching this policy position, the association has been influenced strongly by the sound relations which exist between the Federal Government and the dental schools in the federally supported research activities.

The proposal for a cost of education payment to the dental schools contained in H.R. 4999 will not solve the financial problems of dental education by any means. These funds will, however, be of material assistance in helping the dental schools to continue the level of education which our people deserve and expect and to look forward more realistically to the expansion of enrollment which must inevitably come. We strongly urge favorable action on the cost of education payment program contained in H.R. 4999.

HEALTH RESEARCH FACILITY CONSTRUCTION

The association has expressed its support of the Health Research Facility Construction program on previous occasions and is fully in accord with the proposals in H.R. 4999 to continue and expand this very important activity. It is particularly gratifying to note the recommendation for increasing the scope of usefulness of the research facilities which could be constructed under the proposals in H.R. 4999.

CONCLUSION

In summary, the American Association of Dental Schools is fully in support of the several programs proposed in H.R. 4999. The critical needs toward which this bill is directed have had extensive study by professional, educational, and governmental agencies, with apparent agreement that prompt, affirmative action must be taken if the country is to avoid a crippling shortage of professional health personnel. We urge this committee to give H.R. 4999 full support with the view of securing its approval during this session of Congress.

I appreciate the opportunity to testify on this important legislation in behalf of the American Association of Dental Schools. I will be pleased to comment on any questions which the committee may have.

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Dr. BURKET. I am Dr. Lester W. Burket, dean of the School of Dentistry, University of Pennsylvania, and president of the American Association of Dental Schools. The association which I represent has a long and consistent record of support of the principles contained in the various legislative proposals for aiding health education which have been introduced in this Congress. Specifically, we wish to support H.R. 4999.

Dental educators for several decades have been aware of the need for improvement of dental educational facilities and have attempted to obtain the funds for these from private and public sources with limited success.

The magnitude of the problem is of such a nature and the urgency is so great that since the problem of health involves such an important national asset, it is our belief that this is a responsibility which should be shared by the Federal Government.

Our association is on record in favoring the construction phase of H.R. 4999. We are also of the opinion that legislation in this area should include provisions for expansion and rehabilitation of existing facilities.

You have previously heard testimony that within the next decade or 15 years, at the most, we must double the number of dental graduates.

It is urgent that action be taken now since 2 to 3 years is required for the department of a dental school and, as you have heard, 4 years more before the first class can be graduated.

On the basis of information which the association I represent has, it is likely that 10 to 12 new dental schools might be established or started within the next 10 years if matching funds were made available.

We also have figures to indicate that, if funds were available for expansion of present facilities, we could accommodate 725 more graduates by 1970.

One of the other major problems in dental education which you have previously heard is the difficulty in recruiting a sufficient number of qualified students.

During the last 5 years, we have had a continuous group in applicants, from 7,376 in 1956 to 6,191 in 1960. This represents a 15 year low in the number of applicants which we have had.

From the number of 6,191, 3,616 were accepted.

You have already heard of the high cost of dental education and the establishment of an office so I will not speak to that point.

I again want to indicate that the social structure from which we recruit many of our students is of sucsh a nature that it is impossible for them to bear the total cost of the professional education. Loan funds are extremely limited from which our students can seek assistance.

Last year there was a total of $600,000 in loan funds available to the 47 dental schools with an entire student body of approximately 14,000 students. Of this group, 1,668 students received loans from the National Defense Educational Act. This is of some assistance. However, I would like to point out that the maximum per year which can be obtained under the provisions of NADA is a thousand dollars which does little to assist a student who has no other financial resources.

Furthermore, as has been previously brought out by the group for the Association of American Medical Colleges, many of our students have already used up the maximum sum of NADA money by the time they enter professional school.

It is of prime concern to the deans of dental schools that excellent students have been lost to dentistry because of their inability to carry the financial burden of both the preprofessional and professional educational program.

We are particularly concerned about the young man who decide against dentistry as a profession because the financial cost of this profession, totaling approximately $26,000 by the time they can see their first patient, is far beyond their means.

The American Association of Dental Schools gives strong support to the scholarship grants section of H.R. 4999.

I would just like to speak briefly about the cost of educational facilities. The recently completed survey of dentistry, of which you have a summary, has indicated that the total cost per student in the dental schools in 1958–59 was $3,000 and the projected cost to the schools in 1970 will rise to $5,000. Of this cost to the institution, the student now contributes an average of $800, or less than one-third. The remainder is made up from State tax funds, clinic incomes, university transfers, private gifts, and small endowment funds which dental educational institutions might have.

The American Association of Dental Schools would, in principle, look with favor on the proposal for cost-of-education payment as contained in H.R. 4999 under the provisions which would assure continued management and control of all aspects of administration of the individual dental schools.

You have already heard testimony on the health research facilities construction and I can only concur with previous witnesses that this has been a most useful source of funds for the dental school. It has stimulated the faculty and has also permitted us to carry on an educational program which is truly professional in character.

In summary, the American Association of Dental Schools is fully in support of the several programs proposed in H.R. 4999. The critical needs toward which this bill is directed have had extensive study by professional, educational, and governmental agencies with apparent agreement that prompt affirmative action must be taken if the country is to avoid a crippling shortage of professional health personnel.

We urge this committee to give H.R. 4999 full support with the view to securing its approval during this session of Congress.

I appreciate the opportunity to present testimony on this important legislation and particularly in view of the lateness of the hour. Thank you very much.

The CHAIRMAN. Dr. Burket, thank you very much for your statement. Your complete statement will be included in the record. I want to compliment you for the very concise yet very lucid statement of this entire problem. Certainly it is a very fine statement and the information will be very helpful to us.

I should like to ask this one question that I thought about here before but did not ask other witnesses. I think I will ask the Secretary of Health, Education, and Welfare to comment on it, and perhaps if Dr. Anderson is still here he can comment on it, too, or provide a statement. I think we should have it for the record. That is about the ability of these institutions, whether they are State or private medical schools, to provide sufficient operating revenues for these expanded facilities.

You mentioned the fact that, in 1959, the total operating expenses of the 47 dental schools was slightly over $43 million. Then you seek to indicate the sources from which that sum was obtained.

Now with the expanded facilities that are contemplated by this legislation, what about the operating costs?

Dr. BURKET. It is our hope that we could meet those from other sources.

The CHAIRMAN. This bill does not provide for that, as you know. Would there be any question in your mind as to whether or not maintenance and operating costs could be provided?

Dr. BURKET. My answer would be an indirect one, Mr. Harris, that in the case of the Health Research Facilities Act we have had a sizable building paid from those sources in the school of dentistry and we have found it possible to carry on the cost of the operation of that facility.

I think that has been true of other dental institutions. It poses a problem in administration, but it is one of those problems that we find a solution to in some way.

80014—62——14

The CHAIRMAN. Well, most everyone says, including the Secretary himself, they do not want to encroach upon the rights and prerogatives of the institutions themselves, they should determine their own policies with reference to the operation of the school, the admissions, and so forth.

Now we do not want to set up something here and in a few years you come back and say: "You gave us all this and now we cannot operate it." I do not think that anyone has commented on that yet. I certainly think it is a question that should not be overlooked.

Dr. BURKET. I agree with you.

The CHAIRMAN. Dr. Anderson, I notice you are holding up your hand. Would you like to make a comment on it at this time?

Dr. ANDERSON. I would be happy to, sir, if I may.

The association feels that assistance with operating expense is and will be essential. The statement we prepared a year ago analyzing the problems of medical education and making some recommendations does say that some Federal assistance with operating costs will be both necessary and really essential.

We do support the cost-of-education provision of H.R. 4999 and feel as Dr. Turner, I think, put it very well, that this is most important so that we are not faced with the predicament that you spoke of.

I would say, though, at the same time we intend and are working hard to develop further operating funds from all sources. I think, in general, it has been easier for us to get additional operating funds than it has been to get the large sums that are needed at one time to go ahead with a construction program. But you are quite right, sir, in pointing out this is still a major problem to find adequate funds to carry on our programs.

The CHAIRMAN. Did I understand you to say that the position that your association has taken is that you would expect or ask for Federal funds in the operation of these institutions?

Dr. ANDERSON. Sir, we feel that we made no specific request as to the formula or the amount but in our statement we said that we felt that some assistance ultimately with the educational program that is to be carried on in the scope and quality necessary or desired would be needed.

We look on the cost-of-education provision of this bill as a provision for some assistance with these operating expenses.

At the bottom of page 16, line 22:

> The Surgeon General shall also make cost-of-education payments to schools which receive grants under subsection (a). Such payments to any school for a year shall be equal to $1,000 for each of its students who is awarded a scholarship from a grant under subsection (a) for such year, but not in excess of the number of students determined for such school for such year under clause (1), (2), (3), or (4), as the case may be, of subsection (b).

We are very much in favor of that provision of this bill, Mr. Harris.

The CHAIRMAN. Very well.

Dr. BURKET. Mr. Harris, I think for the record that the testimony I gave indicated that our association, in principle, looks with favor on this proposal for cost-of-education payments as contained in this bill.

I interpreted your question to indicate whether for expanded facilities that might be available, whether we could find an operating budget for the expanded facilities.

The CHAIRMAN. I have been under the impression that this bill has for its purpose primarily to provide construction funds for the expansion of present medical, dental, and osteopathic facilities and such new facilities as would be desired in order that we could meet the continuing demands that are made and to provide adequately for the people in the years to come.

Am I incorrect about that?

Dr. BURKET. No, sir. That is the main purpose of the bill, as I see it.

The CHAIRMAN. All right. Now, in order to accomplish that, funds provided for construction purposes on a matching basis, No. 1; No. 2, for scholarships in order to obtain additional applicants, and increase the quality of the applicants by doing so. That is the second purpose, the second primary purpose of the program. It that true?

Now, in doing to, the $1,000 for cost of education that goes to the medical schools would be a very small part of the total operating cost of the school.

Thank you very much. We appreciateyour testimony.

Dr. BURKET. Thank you, Mr. Chairman.

The CHAIRMAN. Rabbi Lieberman, our very good friend, a member of this committee, Mr. Friedel, of Baltimore, a city from which you come, Rabbi, has been very anxious to get you scheduled here. We assured him we would get to you before we concluded, as I understand you cannot be here tomorrow.

Rabbi LIEBERMAN. That is true.

The CHAIRMAN. So we are glad to have your testimony.

Mr. FRIEDEL. Mr. Chairman, I want to thank you for keeping the committee going so late that we can hear our real beloved citizen, Rabbi Lieberman, who has put in so many months of work on this problem. He is not a doctor, he is not a dentist, but he is a public spirited citizen and I think you will find his statement very worthy.

STATEMENT OF RABBI MORRIS LIEBERMAN, CHAIRMAN, SUBCOMMITTEE ON MEDICAL EDUCATION AND RESEARCH, COMMITTEE ON MEDICAL CARE, MARYLAND STATE PLANNING COMMISSION

Rabbi LIBERMAN. Thank you for the opportunity of testifying, Mr. Chairman. I come not only as an interested individual citizen but also as the chairman of a citizens' committee which recently completed a study of medical education needs in Maryland.

The staff director of that study is with me and I would respectfully request your permission, Mr. Chairman, to have join me at this witness stand, Mr. Marshall Raffel.

The CHAIRMAN. You may come around, then.

Did you identify the director?

Rabbi LIEBERMAN. Mr. Marshall Raffel, the staff director of the Maryland Committee on Medical Care.

The CHAIRMAN. Very well.

Rabbi LIEBERMAN. Mr. Chairman, our committee, consisting of private practicing physicians, medical school faculty members, leading industrial executives and businessmen, attorneys, educators, and clergymen, was asked by the Committee on Medical Care of the Maryland State Planning Commission to examine the State's needs

and responsibilities for the training of physicians. Two of our conclusions are particularly pertinent to the bill under consideration by this committee of the House of Representatives.

The question was raised this morning as to why this expenditure should be a responsibility of the Federal Government. Part of the deliberations of our committee bore heavily upon this point.

It was our conclusion that medical schools, including those operated by State governments, are essentially national resources. The proper focus for all States is to participate in meeting national medical manpower requirements. Our group felt compelled to adhere to this national perspective because of six facts:

1. About one-half of the medical schools in the Nation are private schools, with no commitments to meet local or State needs for physicians; their programs are generally not hampered by State lines and residency requirements. Their graduates meet national, as well as State needs. But essentially these private schools, as national schools, force us to consider the national problem of supply, for no State can really calculate its needs without taking into account what the private schools can and will turn out.

2. Schools with a high percentage of their own residents do not achieve the objective of keeping them in the State. One study of the University of Maryland Medical School graduates, for example, reveals that only 36 percent ended up in the State despite the fact that 75 or 80 percent of those graduating, were originally Maryland residents.

3. Some States cannot support a medical school clinically or economically. The former is especially significant. To educate a physician of quality requires extensive clinical resources; it requires a wide variety of patients of all ages and with all types of diseases. Some areas simply cannot provide this; their populations are too homogeneous, or too small, to provide the wide range of cases necessary for a good medical school. Who will train the physicians they need? This is a national obligation of the schools in other States.

4. The Armed Forces require a certain number of physicians, as do the Veterans' Administration and the Department of Health, Education, and Welfare. Federal needs must be met by the existing schools.

5. Few States can calculate the full effect of population shifts. Maryland's population, we expect, will increase to 1975 at a greater rate than the Nation as a whole. We shall experience a substantial inmigration of people from other States. Is Maryland responsible now for planning to meet the needs of those people? Or is it also the responsibility of the States from which the people come? We do not believe that Maryland should assume the full burden of inmigration. This further confirms the position that the problem of physician supply can be viewed only from a national viewpoint.

6. Medical schools cannot expand and contract with population movements. The costly investment in physical plants requires a stable approach to the use of medical school facilities.

These were the factors which lead us to conclude that medical schools are essentially national resources.

Our second conclusion, which is pertinent to this committee's inquiry, is that financial aid is central to the problem of procurement

and training in medical education. It is central with regard to construction and with regard to student assistance.

These points have been covered extensively in testimony that the committee has already heard and I should like simply to refer the rest of this statement to the record with your permission. But I should like to go on to one further point which, to my knowledge, has not yet been raised or at least not in the way that our committee has analyzed it. This has to do with the need for scholarship funds as an incentive to attract more students of better quality to our medical schools because of the problem that is now presented by the proportion of foreign graduates that is now counted upon to make up and maintain our national standard of 133 physicians per 100,000 of the population.

This was a matter of concern to our committee because in the 10 years from 1950 to 1960 the percentage of foreign medical graduates rose very sharply. In 1950, out of 6,002 physicians licensed in the United States for the first time, 308 were foreign medical graduates, a ratio of 1:19.5. In 1960 out of 8,030 physicians licensed to practice for the first time, 1,419 were foreign medical graduates, a ratio of 1:5.7.

It was a matter of grave question to our committee whether our country should rely upon this great proportion of foreign physicians in meeting our own medical needs because of the great variability of factors involved in the total picture.

It is questionable whether the nations abroad will continue to finance their medical schools to train doctors for foreign use.

It is questionable whether the political, economic, and cultural leadership of the United States or of the other nations will fail to make those homelands sufficiently attractive to their medical graduates to discourage immigration.

It is not our suggestion that this immigration in any way be stopped. On the other hand, we do not believe that it is in the best interest of our Nation to be so dependent upon foreign medical graduates.

We should aspire to maintain the present physician-population ratio from domestic sources. Any other course places us in a highly vulnerable position should the foreign situation change, as well it might.

Any other position could create havoc in the event of national emergency, and any other position does not enable us to make our greatest possible national effort in world leadership.

Therefore, as a nation we should be graduating more doctors from domestic sources in order to be self-reliant and to maintain our standards.

We should consider the foreign physicians intake over and above our domestic turnout as a plus factor which can be used advantageously, for despite anticipated medical advances and more efficient modes of practices, the demand for medical services and use of medical services will rise generally as our population ages, as health insurance becomes more comprehensive and more available, and as our economy advances the higher standard of living leading our people to spend and to need a higher standard of medical care.

For these reasons, therefore, Mr. Chairman, it is the view of our committee that this bill which is before you here is one of the utmost urgency and that its passage in the nearest possible future would be greatly advantageous to the welfare of our country.

The CHAIRMAN. Thank you, Rabbi Lieberman, for your statement. Your complete statement will be included in the record.

(The complete statement referred to follows:)

STATEMENT OF RABBI MORRIS LIEBERMAN, CHAIRMAN, SUBCOMMITTEE ON MEDICAL EDUCATION AND RESEARCH

Mr. Chairman, I am most grateful for the opportunity to appear in support of H.R. 4999. I do so, not as an individual, but rather as chairman of a citizens' committee which recently completed a study of medical education needs in Maryland.

Our committee, consisting of private practicing physicians, medical school faculty members, leading industrial executives and businessmen, attorneys, educators, and clergymen, was asked by the Committee on Medical Care of the Maryland State Planning Commission to examine the State's needs and responsibilities for the training of physicians. Two of our conclusions are particularly pertinent to the bill under consideration by this committee of the House of Representatives.

First, we concluded that medical schools, including those operated by State governments, are essentially national resources. The proper focus for all States is to participate in meeting national medical manpower requirements. Our group felt compelled to adhere to this national perspective because of six facts:

1. About one-half of the medical schools in the Nation are private schools, with no commitments to meet local or State needs for physicians; their programs are generally not hampered by State lines and residency requirements. Their graduates meet National as well as State needs. But essentially these private schools, as national schools, force us to consider the national problem of supply, for no State can really calculate its needs without taking into account what the private schools can and will turn out.

2. Schools with a high percentage of their own residents do not achieve the objective of keeping them in the State. One study of the University of Maryland Medical School graduates, for example, reveals that only 36 percent ended up in the State despite the fact that 75 or 80 percent of those graduating were originally Maryland residents.

3. Some States cannot support a medical school clinically or economically. The former is especially significant. To educate a physician of quality requires extensive clinical resources: it requires a wide variety of patients of all ages and with all types of diseases. Some areas simply cannot provide this; their populations are too homogeneous, or too small, to provide the wide range of cases necessary for a good medical school. Who will train the physicans they need? This is a national obligation of the schools in other States.

4. The Armed Forces require a certain number of physicians, as do the Veterans' Administration and the Department of Health, Education, and Welfare. Federal needs must be met by the existing schools.

5. Few States can calculate the full effect of population shifts. Maryland's population, we expect, will increase to 1975 at a greater rate than the Nation as a whole. We shall experience a substantial in-migration of people from other States. Is Maryland responsible now for planning to meet the needs of those people? Or is it also the responsibility of the States from which the people come? We do not believe that Maryland should assume the full burden of in-migration. This further confirms the position that the problem of physician supply can be viewed only from a national viewpoint.

6. Medical schools cannot expand and contract with population movements. The costly investment in physical plants requires a stable approach to the use of medical school facilities.

These were the factors which lead us to conclude that medical schools are essentially national resources.

Our second conclusion, which is pertinent to this committee's inquiry, is that financial aid is central to the problem in medical education. It is central with regard to construction and with regard to student assistance.

Consider the matter of construction. We recommend that there should be established a school of basic medical sciences on some college campus in Maryland. Such a school would provide the first 2 years of medical school training, after which the student would transfer to the third-year class of a 4-year medical

school. Because of dropouts and ease of expansion in the last 2 years, the 4-year schools can often absorb an appreciable number of transfers at this level. Our task now in Maryland is to prevail upon some college to undertake the responsibility of developing a school of basic medical sciences. Our major problem is that the strongest colleges to handle such a graduate program are all private, nongovernmental institutions. Private colleges, as you well know, are in severe financial straights. Our ability to achieve the objective will have a direct bearing on the level of support which can be secured from various sources for construction and equipping of the required facilities. In our view, H.R. 4999 will greatly facilitate the development of appropriate facilities to help Maryland do its part in meeting the national need for physicians.

Consider the matter of scholarships. All available data indicates that not enough college students are interested in, and not enough are suitably prepared for, the study of medicine and graduate study in the medical sciences. The high cost of medical education prevents many from considering medical studies. The findings of a study conducted by the Association of American Medical Colleges makes this patently clear. That study found that medical students pay more than twice as much as Ph. D. students for their education and receive only one-fourth the financial assistance from scholarships, fellowships, and assistantships. Illustratively, that study found that the average direct cost of medical school (living costs excluded) to the medical student is about $1,000 a year for 4 years compared to $450 yearly for 4 years for the Ph. D. student. Those cost figures are now—I believe—more than 2 years old.

When one considers that in other scientific areas the length of training is frequently shorter, scholarships far more plentiful, the prestige high, and the income potential of the graduate commensurate with that of physicians, we can appreciate the need for greatly augmented scholarship programs to attract qualified students and to meet thereby the national need for physicians. Maryland's study committee recommended that the proposal in H.R. 4999 should be the minimal sum appropriated. Medical schools should seek to augment these funds from other sources.

Our recommendations were unanimously approved by the committee, by the parent Committee on Medical Care and by the Maryland State Planning Commission.

I should point out that no single economic philosophy existed within our committee. Some were extremely conservative with regard to fiscal policy; others were more liberal in their outlook. Yet we could all support this bill (H.R. 4999) for Federal aid to medical schools. It was not that we anticipated that it would answer all the needs of the schools. Indeed, we considered it the minimal sum necessary, and we strongly encouraged augmentation of the Federal effort from other sources.

But why Federal funds? Federal funds because medical education problems are fundamentally national in scope and not a matter which any one State can control; medical schools, even those which are State owned, are essentially national resources; Maryland's need—any State's need—can only be met as the Nation's needs are met. The stimulus for coping with this national problem should come from the Federal Government. The various States will then be in a more favorable position to provide the solutions.

Again, may I express my appreciation for the opportunity to appear before this committee in support of H.R. 4999.

MARYLAND STATE PLANNING COMMISSION, COMMITTEE ON MEDICAL CARE

SUBCOMMITTEE ON MEDICAL EDUCATION AND RESEARCH

Rabbi Morris Lieberman, Ph. D., Chairman.
Walter A. Anderson, M.D.
E. Clinton Bamberger, Jr., attorney.
Rev. Vincent F. Beatty, S.J., president, Loyola College.
Ivan L. Bennett, M.D., professor of pathology, Johns Hopkins University.
Henry A. Briele, M.D.
C. Lockhard Conley, M.D., professor of medicine, Johns Hopkins University.
Leon L. Gallin, M.D.
Daniel Z. Gibson, Ph. D., president, Washington College.
Harry H. Gordon, M.D., head of pediatrics, Sinai Hospital.
John H. Hornbaker, M.D.
Shelby H. Jarman, businessman.

Page C. Jett, M.D.
John Wesley King, Ph. D., professor of biology, Morgan College.
Louis A. M. Krause, M.D.
Albert I. Mendeloff, M.D., physician in chief, Sinai Hospital.
Mrs. Lewis Rumford, II, civic leader.
Irvine H. Rutledge, attorney.
Ernest L. Stebbins, M.D., director, School of Hygiene and Public Health, Johns Hopkins University.
Saul I. Stern, businessman.
William S. Stone, M.D., dean, School of Medicine, University of Maryland.
C. T. Scott, general manager, Bethlehem Steel Co.
Furman L. Templeton, executive director, Baltimore Urban League.
Mrs. John Tucker, civic leader.
Thomas B. Turner, M.D., dean, School of Medicine, Johns Hopkins University.
J. Theodore Wolfe, President, Baltimore Gas and Electric Co.
Theodore E. Woodward, M.D., professor and head of Department of Medicine, University of Maryland.
Staff Director: Marshall W. Raffel, chief, Committee on Medical Care, Maryland State Planning Department.

MARYLAND STATE PLANNING COMMISSION, COMMITTEE ON MEDICAL CARE

George H. Yeager, M.D., Chairman, professor of clinical surgery, University of Maryland; School of Medicine, Medical Arts Building, Baltimore, Md. (1962)
E. I. Baumgartner, M.D., 25 Alder Street, Oakland, Md. (1963)
Harry H. Gordon, M.D., pediatrician-in-chief, Sinai Hospital of Baltimore, Greenspring and Belvedere Avenues, Baltimore, Md. (1963)
James H. Grove, M. J. Grove Lime Co., Lime Kiln, Md.
Paul A. Harper, M.D., professor of public health administration, the Johns Hopkins University, School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, Md. (1962)
Louis A. M. Krause, M.D., 11 East Chase Street, Baltimore, Md. (1963)
Waldo B. Moyers, M.D., 3503 Perry Street, Mt. Ranier, Md. (1963)
Harry M. Murdock, M.D., medical director, Sheppard and Enoch Pratt Hospital, Towson, Md. (1964)
Mrs. Lewis Rumford II, 4401 Greenway, Baltimore Md. (1964)
Edward S. Stafford, M.D., vice chairman, associate professor of surgery, the Johns Hopkins University; office: 11 East Chase Street, Baltimore, Md. (1962)
Sidney H. Tinley, Jr., President, Weaver Bros., Inc., 100 St. Paul Street, Baltimore, Md.
Harvey H. Weiss, executive director, Sinai Hospital of Baltimore, Greenspring and Belvedere Avenues, Baltimore, Md. (1963)
John C. Whitehorn, M.D., professor emeritus of psychiatry, the Johns Hopkins University, 210 Northfield place, Baltimore, Md. (1964)
C. E. Wise, Jr., secretary-treasurer, Maryland Farm Bureau, Inc., P.O. Box 520, Randallstown, Md. (1962)
Theodore E. Woodward, M.D., professor and head of Department of Medicine, University of Maryland, Baltimore, Md. (1962)
Marshall W. Raffel, chief, Committee on Medical Care, Maryland State Planning Department, 301 West Preston Street, Baltimore, Md.

The CHAIRMAN. Are there any questions?

Mr. FRIEDEL. No. I just want to thank you for being so kind in waiting to hear Rabbi Lieberman.

I would like to have Mr. Raffel leave one of these reports for the committee files.

They have done a wonderful job, I think and I believe this report will be very helpful to the committee as we go along.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Thomson?

Mr. THOMSON. I have no questions.

The CHAIRMAN. Mr. Rhodes?

Mr. RHODES. No questions.

The CHAIRMAN. Thank you very much for your testimony.

Rabbi LIEBERMAN. Thank you, Mr. Chairman.

The CHAIRMAN. This will conclude the hearing for today.

The committee will adjourn until 10 o'clock tomorrow morning.

(Whereupon, at 5:20 p.m., the committee adjourned, to reconvene at 10 a.m., Thursday, January 25, 1962.)

TRAINING OF PHYSICIANS, DENTISTS, AND PROFESSIONAL PUBLIC HEALTH PERSONNEL

THURSDAY, JANUARY 25, 1962

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The committee met at 10 a.m., pursuant to recess, in room 1334, New House Office Building, Hon. Oren Harris (chairman of the committee) presiding.

The CHAIRMAN. The committee will come to order.

We have a great many witnesses that we hope to accommodate today. The fact that we do have a lot of witnesses, who are representatives of great organizations and associations, as well as individuals, indicates the tremendous interest in this legislation.

As I stated at the outset of these hearings, this is a challenge to all of us, and the committee has challenged those of you who recognize the needs in this field and who know the purposes and objectives of this program to make a record that cannot be in any way overcome or controverted.

I am exceedingly well pleased with the record that has been made thus far. As I say, I hope that we can accommodate the many witnesses who are here today and those who are to come tomorrow and later. We expect to have a complete and thorough record.

I would like to suggest to all witnesses to be as brief as possible in the presentation of their testimony. I would like to encourage my colleagues to be as brief as you can with your questions. Yet we want full and complete answers to those questions which are uppermost in your mind.

I have received a good many communications from various institutions and individuals which will be included in the record at the appropriate place.

We are very glad at this time to welcome to the committee our colleague from Rhode Island, Mr. Fogarty. Mr. Fogarty and I came to the Congress at the same time. I have enjoyed these 22 years of association in this great body. Mr. Fogarty is chairman of the subcommittee of the great Appropriations Committee handling, among others, the funds for public health programs. He has over the years made a great record for himself in a field that is so important and vital to the people of the United States of America.

He has given a lot of study and attention to these problems, and I suppose he is as knowledgeable in this field as any Member of Congress. For that reason, and many other reasons, in behalf of the committee, John, let me say we welcome you and we are glad to have you here to testify on this problem.

STATEMENT OF HON. JOHN E. FOGARTY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF RHODE ISLAND

Mr. FOGARTY. Thank you very much, Mr. Chairman. You may look a lot younger than I do, but I feel a lot older than you this morning. My committee is meeting at 10:30, so that means that I am not going to take much time today. I would like permission to file my statement, and make a brief statement, and then answer any questions that I can.

The CHAIRMAN. You may file your statement at this point in the record.

(The statement of Hon. John E. Fogarty follows herewith:)

STATEMENT OF HON. JOHN E. FOGARTY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF RHODE ISLAND

I am grateful for this opportunity to appear before your distinguished committee in hearings concerning a matter of such vital interest to the American people—medical education and research. It is a pleasure to cite at the outset the impressive record of this committee with respect to legislation in these areas, and to say a word in praise of your own leadership, Mr. Chairman, in this important and complex field.

The bill before you today proposes desperately needed and long overdue measures to further the training of physicians, dentists, and other professional healthworkers through construction of teaching facilities and scholarships, and to extend and expand construction for medical research. While I believe this bill to be a thoughtful measure, I am convinced that its provisions are not adequate to meet, in a completely effective way, the issues which we face in this area.

I can make this statement with confidence, for the committee which I have served since 1948 has studied these problems deeply in connection with appropriations to the Public Health Service. We have witnessed the mounting shortage of physicians, now grown to alarming proportions, as well as the problem of providing adequate physical resources for medical research. I see in this bill one possible approach to several issues that my committee has faced.

As you know, I have proposed legislation during the last two sessions of Congress which concerns specifically the manpower need and offers similar solutions to those we are weighing here. I should like to point out that the judgments of the groups I have conferred with in these matters correspond very closely with those represented in this bill and the Senate's counterpart, S. 1072, which in turn reflect the President's wishes. My only concern is that it may not go far enough in meeting the urgent needs of medical education today.

In May 1959 and again in January 1961, I introduced bills before the Congress which were designed to authorize a 10-year program of grants for the construction of medical (including osteopathic), dental, and public health teaching facilities. I did so because the Nation's need for essential healthworkers had already become so acute that important national groups and expert witnesses before my committee had urged congressional action. In October 1959 the needs were summarized in a masterful document entitled "Physicians for a Growing America," a report by consultants to the Surgeon General under the chairmanship of Mr. Frank Bane.

That distinguished consultant group—composed of 22 non-Federal leaders in medicine, medical education, and related fields—affirmed that the prevailing ratio of physicians to population must be maintained in order to protect the health of the people of the United States. "To achieve this," and I quote Mr. Bane's transmittal letter to Surgeon General Burney, "the number of physicians graduated annually by schools of medicine and osteopathy must be increased from the present 7,400 a year to some 11,000 by 1976—an increase of 3,600 graduates." More than 2 years have passed since that statement was written. And the statement voiced a problem that was already one of national concern.

It was clear to the consultant group that the country's need for physicians would require an immediate and strenuous program of action by the Nation as a whole. Medical care, teaching, research—activities of such magnitude and far-reaching importance—demanded no less. The group expressly stated that the Public Health Service must assist in every way possible in planning and

implementing such a program. With respect to educational facilities, the report makes these recommendations:

"Probably the greatest immediate obstacle to expanding the Nation's medical educational capacity in existing schools and in the development of new schools is the problem of financing the needed physical facilities. In addition, many schools are beset by problems of attempting to carry out teaching activities in overcrowded and obsolescent buildings * * *.

"The consultant group is convinced that the Nation's physician supply will continue to lag behind the needs created by increasing population unless the Federal Government makes an emergency financial contribution on a matching basis toward the construction of medical school facilities. Only with such a Federal stimulus will adequate funds become available for needed construction."

Acting in the light of these recommendations, I proposed at the beginning of this Congress the Health Educational Facilities Construction Act of 1961 (H.R. 27). The bill before us embodies the essential principles of that proposal. I should like, however, to see it provide for use of a portion of the funds to maintain the new facility when deemed necessary by the institution.

The Federal Government, while aiding the construction of medical research and hospital facilities, has neglected medical education, which is basic to both efforts. If the supply of physicians is to be increased, and if the full value of the Federal investment is to be realized, Federal support must be given to the construction of facilities for medical teaching.

I should like to ask the committee to give further consideration to means for strengthening the financial underpinning of existing and new schools. In January 1961 I introduced the Professional Health Training Act, which would provide 10-year support to medical and dental schools in the form of block grants plus an additional amount based on the number of students enrolled. Specifically, that legislation, H.R. 3276, would authorize basic grants of $100,000 a year to each 4-year school, or $25,000 a year times the number of years of training provided. An additional $500 would be paid to each school per student enrolled, plus $500 for each student in excess of past enrollment.

While I do not believe that this is the only reasonable basis for cost-of-education payments, it does indicate the order of magnitude that we should aim at. The bill before you would provide limited payments based on the number of students receiving scholarships at each institution. But the amounts involved are much too small. Accordingly, I would urge that this committee provide more adequate operating-cost support than is now proposed for these schools in H.R. 4999.

In January 1961 I also introduced, for the second consecutive year, a bill proposing that the Federal Government assist top quality young people to obtain the medical education necessary to serve the Nation's health needs (H.R. 3438). Again, I had aimed at this tremendous national problem—the swiftly developing shortage of physicians, dentists, and other health workers. The objectives of that legislation, to be entitled "The Medical and Dental Student Scholarship Act," are also incorporated in the present bill. The method for distributing the scholarship funds, however, differs in these two proposals. I favor the more equitable distribution through State governments, as presented in H.R. 3438.

The shortage of physicians are recently called to our attention in a very dramatic way. More than 7,000 foreign-trained doctors are serving as interns and residents in the hospitals of this country. Certainly, we welcome qualified physicians from abroad who wish to study and practice here. But the fact that many are not qualified was revealed by examinations of the Educational Council for Foreign Medical Graduates. Now I hold this to be a symptom of the serious crisis in hospital medical care. We are simply not training enough doctors in the United States to meet our growing demands for medical services. Young doctors from foreign countries are needed to fill the gap—though it is a time to be offering the benefits of our advanced medical knowledge and technology to peoples of other lands.

Let me review once more a few pertinent facts. The number of college graduates throughout the United States is increasing sharply each year. But the number of applicants to medical and dental schools is actually falling, and the average quality of those accepted, as judged by their previous grades, shows a marked decline. The reasons for this situation are plain enough if you look at the practical problem confronting an outstanding student at the point of selecting his carrer. Unless he is in a very exceptional financial position, the road to a medical career will be discouraging if not impossible.

After completing 4 years of college, he must undertake another 4 years in medical or dental school at an average cost of over $11,000. Add to this his 3 years of hospital training at a pay that falls short of bare living expenses, and he is nearly 30 years old when he starts to earn a living. Moreover, a third of all graduates are over $2,000 in debt when they finish medical school; 17 percent have debts of $5,000 or more at that point, with years as interns and residents still ahead.

By contrast, the prospects of this promising student as he surveys the requirements for such fields as physics or electronics are far more attractive. In 4 years he can earn a Ph. D. degree in a science, aided throughout by substantial fellowships. While the sciences I have mentioned are also essential to our Nation at this time, and should, of course, be stimulated in every way possible, the fact remains that comparable assistance has not been made available to medical and dental students. The young man or woman considering a career in science or medicine does not have an equal choice among fields. And unless this situation is corrected, the health of the American people will surely suffer

Legislation is required that would help overcome the financial barrier to medical and dental education through a program of scholarship grants for the support of talented students on the basis of ability and need. Obviously, such payments would not make the attainment of a medical or dental degree in itself a less strenuous task, for nothing can be done to lighten the burden of study required to equip a young man or woman for these professions, which demand the highest order of ability and dedication. But such payments could be of real value to students in financial difficulty, to the schools themselves, and to the Nation as a whole.

At this point, gentlemen, I should like to call to your attention a letter I wrote to President Eisenhower in April of 1960—my fourth letter to him on the subject of the national shortage of health manpower. I stated in that letter—and I repeat to you—that we must act promptly to check the growing shortage of physicians and other health personnel. Such present programs as the Health Research Facilities Construction Act, the Hospital Construction Act, and the National Defense Education Act clearly demonstrate that construction of facilities and provision of scholarships for higher education are appropriate Federal undertakings in areas of recognized need. Why are such programs lacking in the vital area of medical education?

I was compelled to state at that time:

"Our real problem is not lack of economic capacity. It is lack of leadership and of a political philosophy that will capitalize boldly and affirmatively on the opportunities that are before us. It is not irresponsible to recommend strengthening good Federal programs.

"Irresponsibility consists of failure to look at problems squarely, to look at our national capacity to solve them, and to take a considered line of constructive action."

It is my impression that the climate has changed since I made those comments It is still necessary, however, to repeat this statement: "I do urgently believe that we must enact legislation and provide appropriations to meet the crisis posed by the threat of a shortage of 15,000 physicians and an equal number of dentists by 1975, and the resulting impairment of the level, quality, and distribution of health and medical care services."

In addition to expanding the capacity of the schools and aiding students, the legislation we are considering here is designed to extend, expand, and improve the existing program of research facilities construction grants. This is a program that I have consistently supported since its inception in 1956. The present bill, however, would introduce certain much needed amendments to the original legislation.

Since 1956 Federal support for medical research and research training has undergone major changes. Funds currently available to the National Institutes of Health for these purposes total $526 million, or 10 times the 1956 level. Private support for medical research has doubled over the same period. In sharp contrast to these increases, funds for research construction grants were frozen by statute to $30 million a year until 1961. Another way to view this change is to consider the funds for research facilities construction in 1957, the year of the first appropriation, in relation to other program components. Extramural funds in 1957 were distributed 60 percent for research grants, 20 percent for research training, and 20 percent for construction grants. In fiscal year 1962 this distribution is 70 percent for research projects, 25 percent for research training, and only 5 percent for construction. In other words, investment in physical resources

for research has dropped from one-fifth to one-twentieth of NIH extramural funds over this period.

Thus the support of research is badly out of balance with the support of research resources. The research facilities program does not provide a solid physical base for research project support and the training of research manpower as now budgeted. At a time when a growing number of highly trained medical scientists are embarking on their careers, a major national deficit is developing in the availability of modern facilities in which to work. This is the greatest single obstacle to the advancement of medical research in this country.

As I view the situation, several modifications are necessary in the research construction authority as it now stands:

First, an extension of the program. I think it should be extended for at least 5 years.

Second, an increase in the appropriation authorization. The present ceiling of $50 million which was voted last year for a 1-year period, although a welcome increase over the previous authorization of $30 million, is still inadequate.

Third, a change in the matching requirements. The present 50–50 matching requirement limits the effectiveness of this program.

The bill now before the committee approaches these needs in what I believe is a conservative way. It calls for a 3-year extension of the program at an annual authorization of $50 million. This, however, is hardly commensurate with the grant applications, approved and pending, which total over $100 million, plus additional evidence of intent now on file in the Public Health Service. I urge that the committee consider both extending the period of authorization of this program and increasing the annual appropriation to at least $75 million.

The bill in its present form takes no recognition of the problem presented by the current 50-percent matching restriction. Many insitutions with strong research capabilities but lacking rich endowments are now unable to build the facilities commensurate with their research potential. It is my firm belief that some provision should be made to permit Federal matching in excess of 50 percent in cases where institutional research needs and capabilities are strong but financial resources inadequate.

I am fully in accord with the provision of this bill which would permit the Surgeon General, in cases of special national or regional need, to support or carry out research construction without matching requirements. I believe this provision to be a sound one. However, it does not meet, nor was it intended to meet, the needs of poor institutions in respect to the construction of research facilities for their own use.

One other clause in the legislation that I should like to say a word about is section 725, which spells out the framework for a National Advisory Council on Education for Health Professions. This, again, closely parallels a provision that my own committee has proposed. The bill is quite specific as to requirements for appointment, the role of the council in policy development, and its relationship to the National Advisory Council on Health Research Facilities. The creation of this Council—composed of eight authorities in education and four civic leaders, with the Surgeon General and the Commissioner of Education as ex officio members—would insure the kind of expert, impartial administration of the act that has always characterized the supportive programs of the National Institutes of Health.

I wish to dwell for a moment on the thoughtful structure of these advisory groups and the related technical study sections, which I believe embody the highest principles of government in a democracy. The combination of authoritative non-Federal leadership with responsible Federal administration has made possible the full participation of the scientific and academic world in the Federal support of medical research and research training. Scientists have been the first to assure me that scientific freedom has been maintained. Heads of universities and medical schools attest that academic freedom has been maintained. And earlier fears that this would not be so, even among some who serve the people through government, have proved groundless. I believe we owe this in large measure to the sincere efforts of academic leaders and the Public Health Service to develop a productive partnership—one that now stands at the threshold of an era in which medical research can prevail unfettered by bureaucratic and economic barriers. I have no doubt whatever that the same efforts would rule with respect to the Federal stimulus and aid to medical resources to be provided by this bill.

In summary, then, we have before us an opportunity to take prompt and affirmative action that would help avert a serious decline in medical manpower within the next few years. The legislation, with the modifications I have outlined, would attack this problem in several ways, none of which would be fully effective without the others. First, it would give support to the construction and improvement of medical and dental teaching facilities. Second, it would provide basic support for institutional operations. Third, it would make scholarships available to the most deserving students, with a view to raising the level and quality of graduates. Fourth, it would extend, expand, and improve the present support of medical research construction, with particular attention to special regional needs. Finally, it would do all this within a proven structure that should allay any doubts as to the preservation of those freedoms so real and essential to the advancement of science and education.

I urge you, gentlemen, to lend your wholehearted support to legislation for these purposes. With the modifications I have suggested, H.R. 4999 would provide much-needed support for the essential process of medical education. The problems it would help to resolve are among the most pressing that confront our Nation today.

Mr. FOGARTY. I appreciate the opportunity to be heard first this morning so that I can get back to our Appropriations Committee, but, first, I would like to say and reiterate what the chairman has said. We both came to Congress 22 years ago and we have been working close together on matters that affect the health of the people of our country.

I can think of many areas, like the Hill-Burton hospital law, and the health facilities law, and others that you and your predecessors, Percy Priest, and Mr. Wolverton from New Jersey, have helped pass. You certainly have had some wonderful chairmen of this committee and I think you are one of the best because you see eye to eye with most of us who want to improve the health of all the people of our Nation.

I just want to say categorically that I am here this morning to support the administration bill. I have introduced legislation myself on these three issues, but I am here this morning to support the administration bill in its entirety.

I am pleased to know that the present Secretary of Health, Education, and Welfare, Mr. Ribicoff, appeared before your committee and gave this bill his unqualified support. I was also very pleasantly pleased to see another former Secretary of Health, Education, and Welfare, Mr. Marion Folsom, come into the room this morning. I have said this on more than one occasion: I think he was one of our great Secretaries of Health, Education, and Welfare, even though he served under a Republican administration. When I first met him years ago right after the war he was serving as a consultant to the Colmer committee at that time, a postwar economic policy and planning committee. He has been one of the foremost men in this field and I am pleased to see that he is here today to testify in favor of these bills.

I don't think I have to go back all over the statistics. I think those who favor the bills have given you all this. You know that we have a real shortage of doctors in our country and in the next 10 years it could be a real health problem for our Nation unless we take action on this type of legislation.

We know the number of additional doctors that are needed just to keep up with the growing population in the next 15 years. We know that it takes 10 years from the time of enactment of legislation to graduate the first graduating class from a dental school, or a

medical school, or a school of public health, and this bill takes in all three, dental schools, medical schools, and schools of public health. It will take a 10-year period in order to get our first graduating class.

It is distressing to me, Mr. Chairman, to find that we have 7,000 foreign doctors practicing in this country today, and every member of this committee who has a mental institution in his district knows that unless we had these foreign doctors, our mental institutions would not be manned today. In my own State many of those who come from foreign countries and who are doing a good job in their own way in these mental institutions are taking up the so-called slack that exists at this present time.

Then a year ago it was found that many of these foreign-born doctors were not qualified or did not meet the qualifications of the American Medical Association and as a result have not been allowed to practice in that particular State.

I am also happy to note that the American Medical Association is supporting particularly the construction part of the bill, although they may have some reservations on other parts.

I understand the American Dental Association is supporting the bill in full, that the schools of public health are supporting all three phases of this bill, and that the American Hospital Association, I was just told by one of their men this morning, is supporting all three phases of the bill.

I think we have more public support today for this kind of legislation than we have had in the past 8 or 10 years, and I think that speaks well for this kind of legislation. The only thing I can say to you is that I hope that you will take action on the three phases of the bill and give Congress a chance to vote on it. When the bill is enacted into law I will guarantee to you that I will do everything I can to get Congress to appropriate the necessary funds to put this legislation into action.

There is one point that I would like to make. I have served on the Appropriations Committee now for 16 years and have listened to our governmental witnesses and hundreds of outside doctors from almost every State in the Union, who are specialists in their field, talking about the necessity of doing something in this area. Almost without exception every doctor who has appeared before our committee in 16 years has talked about the shortage of facilities, the shortage of trained personnel, and the shortage of medical personnel. They are practically unanimous in it.

There have been four or five studies made by nongovernmental experts in this field, the last the Bane report that spells out very specifically the shortage that exists today, and what must be done in the next 10 or 15 years in order to avert a health breakdown in our country.

However, many Members of Congress criticize medicine and dentistry because they are not happy with the availability of medical and dental care. There are complaints, and I am sure you have heard the same, about the waiting periods for an appointment and about what some people think are too high fees. It is an ordinary thing to wait 2 or 3 weeks to get an appointment with the dentist today, and I might say in the field of dentistry I saw figures the other day where we used to have about 58 dentists per 100,000 in our country. We are down to 46 dentists now per 100,000 people in our country. Unless

we take some action we are going to get fewer and fewer dentists and not more. These people are appearing before Congress telling us what must be done to ease the situation by increasing the supply of health manpower and I think we ought to listen to them because they are experts in their field.

In my opinion if Congress does not pass this bill this year it will be the same as announcing that we don't believe there is a shortage of these essential health services today and we don't believe there will be a more serious problem 10 years from now.

I say this because I sincerely believe, as do other experts in this field, that only Federal financing can help solve this problem, and, Mr. Chairman, I am not concerned about Federal control of any kind. We have had Federal aid to education for over a hundred years in all the land-grant colleges in our country. We have been supporting almost unanimously the hospital construction law for these so many years that you have been so active in having the act extended without any complaints of any kind of any type of control.

We are giving direct Federal aid to medical education now. In our committee we are giving grants to every one of the 4-year medical schools to teach in the area of cancer, and heart, and in about half of these schools giving teaching grants for mental health, and never have we had one complaint from the American Medical Association or any group of medical or professional people in this regard.

In the field of vocational education, that is history. It is one of the finest examples I think of Federal aid to education that we have and I have never heard any one in my 22 years in Congress ever complain about this system of helping to educate the youth of our country.

I have much more in my prepared statement, but I think I better stop now with that. I just want you and your committee to know that I am wholeheartedly behind this. I think it is a necessity. I think that if we don't take action we are going to do the people of this country a great deal of harm. We are not going to provide for them the doctors to give them decent medical care in the next 10 or 15 years because of the increase in the population.

I will be very glad to answer any questions if there are any members of the committee who would like to ask me any questions.

The CHAIRMAN. Thank you, Mr. Fogarty, for your statement with reference to this legislation. I am sure there could be many questions from members of the committee. However, we do appreciate and understand your situation and certainly your time problem now in having to go to your own committee. There may be a question or two that some member might have.

Mr. Friedel?

Mr. FRIEDEL. To save time I am not going to ask any questions but I do want to compliment our colleague, Mr. Fogarty. He has always been in the forefront for public health and medical research and I knew it would be interesting to listen to him.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Just one question, Mr. Fogarty. I know how hard you have worked for the appropriations for HEW each year and very effectively. The other day when the Secretary was here he was asked about the reduction of the expenditures of HEW and he

said, if I recall his testimony, that they had withheld at the President's request some $102 million out of the appropriation.

I asked him about that reduction and he said that Congress gave them more than they asked and more than they could intelligently spend. Do you want to comment on that, because I think one of the reductions was made in the cancer research?

Mr. FOGARTY. I have publicly stated my position. I think he is entirely wrong. I think it is one of the biggest mistakes he has made since he has been Secretary of Health, Education, and Welfare. Congress did not appropriate more than we could spend. We have scientifically approved projects now that could be paid that are not going to be paid, especially in the field of health, where they have reduced the budget by $60 million, and it is going to hurt all—right down the line. It was an across-the-board cut. I don't agree with an across-the-board cut or meat-ax approach, and that is how this cut was made.

In other areas, in the Food and Drug Administration, for example, they went even below the Eisenhower budget. In the field of vocational rehabilitation, they cut back, and, Mr. Chairman, in this coming appropriations for the coming year, they are cutting back substantially the hospital construction funds for 1963, and we hope to remedy that.

We hope, Mr. Younger, to correct the impression that Mr. Ribicoff has left and I do not believe that he is right. I believe he is wrong and I have stated that categorically just as clearly as I can. I think he has made a real mistake in this area by cutting back these funds. There are going to be approved projects that cannot be met in this fiscal year of 1962 unless he or the President releases some of the funds that they have put in reserve. Do I make myself clear?

Mr. YOUNGER. Yes, indeed. I am glad to get that of record.

The CHAIRMAN. Mr. Schenck?

Mr. SCHENCK. Mr. Chairman, I don't want to take the time of our colleague and friend, Congressman Fogarty, except to just agree and share his views and opinion in his statement about the services.

The CHAIRMAN. Would there be any further questions?

Mr. RHODES. Mr. Chairman, first I want to join with you and our other committee members in paying a tribute to our colleague, Congressman Fogarty, for the record that he has made in this field. The people of our country are deeply indebted to him for his contributions to the cause of public health and seeking the cause and cure for crippling and killing diseases.

I feel that because of his untiring efforts and dedicated public service there are many citizens in our country who are well and alive today who otherwise would have suffered crippling diseases or death. His support for this legislation I feel is strong evidence of the merit and need for the legislation proposed in H.R. 4999. Because of Mr. Fogarty's experience and knowledge about this legislation I would like to have for the record his views on a few questions which I would like to ask at this time.

Mr. Fogarty, I wonder if you would mind telling us why you believe the Federal Government has an obligation to participate in educating health personnel?

Mr. FOGARTY. In my opinion, Mr. Rhodes, this is a national problem and not a State problem. Every time a disease breaks out, whether it be in Mississippi, or Pennsylvania, or New York, the Public Health

Service moves in, they don't wait, and in this way it is a national problem and unless the Federal Government takes the lead in providing financial assistance to these schools, these schools are not going to be built and these doctors are not going to be graduated.

There is only one way around it. The private funds are drying up. Every medical school dean in the country will agree with that statement. I don't know of one that disagrees.

Mr. RHODES. Do you believe, Mr. Fogarty, that if this bill were passed and it produced the expected expansion, the schools would be able to operate on their own from that point, or do you think that Congress would have to provide a continuing operating subsidy?

Mr. FOGARTY. No, I do not. I think the hospital construction law is a good example. That has been in effect now for 12 or 13 years and the same question was raised when the hospital construction law was passed by Congress. What about 10 or 15 years from now? Will the Federal Government be called upon to support these hospitals?

The chairman of our appropriations committee has raised that question continually with me, but we have no evidence of any kind at this time in the history of the Hill-Burton law that the Federal Government has been called upon to subsidize any of these hospitals built with Hill-Burton funds.

Mr. RHODES. What is your feeling about loans to medical and dental students with a forgiveness feature available to the graduates who practice in critically needed areas or in public health assignments for stated periods of time?

Mr. FOGARTY. I testified in behalf of the bill and the bill calls for a scholarship program, but there are people in the country who think that maybe a loan program would be better than a scholarship program. If that was the desire of the committee, I would not argue with the committee.

If they decided that a loan program was better than a scholarship program I would go along with the loan program and I think if we had some provisions in a loan program where some of these doctors could take advantage of a forgiveness feature if they went into areas where there are no doctors available at this time, that it would be a tremendous help to areas which are not given this medical protection because of the lack of proper medical personnel.

Mr. RHODES. Do you agree with some of the witnesses who have appeared before the committee that the enactment of this legislation would produce a larger pool of well-qualified applicants for medical and dental schools?

Mr. FOGARTY. Oh, I don't think there is any question about it, especially if we enact the three phases of this bill. The medical profession tells me that they have many young people that just can't afford to go to medical school today because a medical education is the highest priced education we have. You go 4 years to college and 4 years to medical school, and a couple of years, 3, as an interne and in residency.

It is 11 years after you leave high school before you can even get started, and then about 30 or 40 percent of people going to medical schools today end up with a debt of $2,000 or $3,000 and a certain percentage have a debt of $5,000 to pay off. Many are not going to medical schools but are going on to get their Ph. D. because they can get into the labor market at a quicker rate and get paid for it.

Mr. RHODES. Mr. Fogarty, I am in accord with Secretary Ribicoff, the American Dental Association, the school associations, and the American Medical Association, that the construction funds are the ones of greatest need. What do you think is the highest priority in the medical and dental schools?

Mr. FOGARTY. I would think from what talks I have had with all of these professional groups that if the committee decided on a priority system in these three phases of the bill, the one part that I think everyone agrees on is the construction part, and I think that should receive the No. 1 priority if a priority system has to be developed by the committee. I would hope that all three phases of the program could be enacted into law, but if we have to take these piece by piece or part by part, the one that would receive the overwhelming support of all the medical groups and the Congress, I am sure, is the construction part of the bill, and I would not argue with the committee if that was their decision.

Mr. RHODES. Mr. Fogarty, you have had considerable experience with programs for Federal grants in support of health resources. In your experience have there been any complaints about Government interference in the teaching process or research programs?

Mr. FOGARTY. No, we have had no complaints because all of these grants are made on the basis of approval by a committee of experts in this field who have no connection with the Federal Government at all. They go through two steps. First, the grant has to be worked up by the individual. It has to have the approval of the dean of the medical school. It then goes on to a study section of experts in that particular field. If they pass on it, it then goes before a national advisory board. If they pass on it the Surgeon General OK's the application of the grant of these funds if we have appropriated sufficient funds, so we have had no complaints at all.

Mr. RHODES. Thank you, Mr. Fogarty, for your information and your views on this important legislation.

The CHAIRMAN. John, thank you very much. I know there would be a lot more questions but I know you want to get to your committee and we have a lot of other witnesses here to be heard.

Mr. FOGARTY. Mr. Chairman, I have one letter from the president of Brown University in the city of Providence supporting this bill. Brown is one of the oldest universities in the country and I was wondering if I could have permission to insert this in the record at this point?

The CHAIRMAN. Yes, it shall be inserted in the record and, incidentally, I had a wire from Brown University which was inserted in the record a moment ago and they can go in together at the same place.

Mr. FOGARTY. Thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you very much. We appreciate your interest and your testimony.

Mr. FOGARTY. Thank you.

The CHAIRMAN. At this time we will hear from the Honorable Marion B. Folsom. Mr. Folsom is a former Secretary of the Department of Health, Education, and Welfare and is now a member of the board of trustees and chairman of the Executive Committee of the University of Rochester and director and management adviser of the Eastman Kodak Co.

Mr. Folsom, let me welcome you back to this committee in a different capacity from which you have been here before.

STATEMENT OF MARION B. FOLSOM, DIRECTOR AND MANAGEMENT ADVISER, EASTMAN KODAK CO.; CHAIRMAN, EXECUTIVE COMMITTEE, BOARD OF TRUSTEES, UNIVERSITY OF ROCHESTER; AND FORMER SECRETARY OF HEALTH, EDUCATION, AND WELFARE

Mr. FOLSOM. Thank you, Mr. Chairman.

Mr. Chairman and members of the committee, it is a pleasure to appear before your committee in support of the proposals incorporated in H.R. 4999, to increase the opportunities for the training of physicians, dentists, and public health personnel. This is a problem to which I devoted considerable study while I served as Secretary of Health, Education, and Welfare in the Eisenhower administration in 1955–58, and since then in my capacity as chairman of the Executive Committee of the Board of Trustees of the University of Rochester.

We have made great progress in the fields of medical science and health care in recent years, but we have many problems facing us and there is still much to be done in both fields.

In pointing out the serious problems we are still facing in the field of health care, the group of consultants appointed by the Senate Appropriations Committee in 1959, under the chairmanship of Boisfeuillet Jones, estimated the annual toll of disease and disability at $35 billion.

First, I would like to take up the need for more physicians and dentists.

The need for more physicians and dentists presents one of the more serious problems. The number of physicians per 100,000 population increased from 125 in 1930 to 134 in 1950. There has been practically no change in the last 10 years, and we are barely holding our own with the increased population. While there was an increase in the number of graduates from medical schools from 1940 to 1954, there has been practically no change in the last 6 years.

There has been a similar trend in the number of dentists and graduates of dental schools. The number of dentists per 100,000 population was 59 in 1930, 62 in 1940, and has been at 57 since 1949. The number of graduates has shown little increase since 1954.

People naturally raise the question as to why, with the great strides which have been made in medical science, we cannot get along with a smaller number of physicians in relation to population. There are several reasons. We now have a greater percentage of the population in the very young and very old age groups, each of which requires much more medical care than the remainder of the population.

The increase in standard of living has enabled more families to obtain health services. The widespread use of hospital and medical insurance has resulted in greater health consciousness of the people—and a greater purchasing power for health services. There has also been an increase in demands for physicians for research work, employment in public health agencies, and in industry.

It is interesting to note that 17 percent of the physicians entering practice in the United States in 1959 were educated abroad. It seems strange that a country with our position in the world should have to depend upon foreign medical schools for so many of our physicians. Should not our goal be to train the number of physicians we need and also our share of the physicians needed by the less well-developed countries of the world?

THE NEED FOR EXPANSION OF MEDICAL AND DENTAL SCHOOLS

As Secretary, in 1957, I appointed an able group of consultants, under the chairmanship of Dr. Stanhope Bayne-Jones, to explore the field of medical research and education. They reported in 1958 that some 14 to 20 new medical schools will be needed in the United States by 1970 if the existing number of physicians per 100,000 population is to be maintained and if sufficient personnel is to be available for research work.

Another committee appointed later by the Surgeon General, and under the chairmanship of Frank Bane, estimated that to maintain the present physician-population ratio and to provide the necessary physicians for teaching, research, public health, and industrial medicine, 11,000 graduates per year would be needed by 1975, or a 3,600 increase over 1959. It was estimated that, with adequate financial aid, existing and planned schools could add about 1,000 graduates per year.

I understand that the medical schools now estimate that existing and planned schools might add about 1,700 graduates—still far short of the need. The Bane committee indicated that the balance will have to come from 20 to 24 new 2-year and 4-year schools.

While in the past the construction of medical schools was financed largely from non-Federal sources—mainly State and private sources—it is now generaly agreed that in the future the Federal share in the construction of new schools and the expansion of existing schools will have to be considerably greater than in the past.

The Eisenhower administration recognized this need in 1956 when the President recommended to Congress that $50 million a year be appropriated for a period of 5 years, to be given in the form of grants on a matching basis to medical schools for research and teaching facilities. With the matching funds, this program would have involved an expenditure of about $500 million over a 5-year period, which would have gone a long way toward meeting the need at that time for expansion in the medical schools.

In amending the Public Health Service Act that year, Congress authorized matching grants of $30 million a year for research facilities but nothing for teaching facilities. The research provision covered 3 years and was later extended for another 3 years so that, for the 6-year period beginning in 1956, $180 million have been made available by the Federal Government. Last year the act was extended for the 7th year and the ceiling raised to $50 million per year.

While these grants for research facilities have been of great help to the medical schools, there is still a serious need of funds for classrooms and laboratories for teaching.

It would be necessary for schools to obtain matching funds from individuals, corporations, foundations, and State governments. But, since 1956, schools have been very successful in obtaining matching funds for research facilities, with the supplementary funds being well above the matching amount required.

It naturally would be expected that the bulk of the matching funds for the medical schools of the State universities would have to come from the State governments. It may also become necessary for the States to provide some of the money for the matching funds for the private schools.

From the financial point of view, it would, of course, be highly desirable if existing schools could expand. The cost would be much less than to start new schools. In view of this saving and of the great need for larger enrollments, every effort should be made by the medical schools to increase their student bodies without lowering the quality of their teaching. To obtain an increase in enrollments, funds must be made available to modernize and expand present facilities.

In looking to the future, the consensus is that, with the already high cost to the individual of medical education, we cannot look for much, if any, increase in tuition and fees. In the past few years, there has been a gradual increase in contributions from corporations toward the operating costs of medical schools. Such contributions should continue to increase, as should contributions from individuals, particularly from physicians to the medical schools from which they were graduated.

The demands for higher education in all departments are to be so great in the next few years that we should not expect the universities to subsidize their medical schools out of their general funds. We shall have to look to all sources of revenue, except possibly increasing tuition, if medical schools are to meet the Nation's needs.

UNIVERSITY OF ROCHESTER MEDICAL SCHOOL

Let me cite as an example the situation at the University of Rochester, of which I am chairman of the executive committee of the board of trustees. The principal buildings of its outstanding school of medicine and its university-owned Strong Memorial Hospital are nearly 40 years old. All are crowded and cramped. A number are obsolete. Several areas, including the operating rooms and nurseries, do not meet current standards.

The faculty and trustees clearly recognize that to continue and increase its important contributions to medical education, the university's medical center must be modernized and expanded. The cost of the renovation and construction that must be done at the medical center in the next 5 years will exceed $15 million. At the same time, the university has identified urgent needs of its other colleges that will require the raising of over $30 million additional during the same 5-year period.

We are making a strenuous effort to obtain these funds from local and national private sources, but we know that our needs far exceed the resources of those to whom we can look for support.

As a consequence, we face the prospect of having to make a number of serious compromises in our development—compromises that will result in the university's making a much lesser contribution to society in medicine and in other areas than that of which it is capable.

I am confident, however, that with the stimulus and the assistance of a program of Federal matching grants for the construction of educational facilities, such as that proposed in H.R. 4999, we will be able to achieve at our medical center the development and the expansion of our program of medical education that we desire and which the Nation needs.

I know that many other universities and medical schools face very similar problems. The recognition by the Congress at this time

of the magnitude of the need of our medical schools and adoption by the Congress of a program of Federal assistance to these schools is, in my opinion, the only way in which the Nation's well-documented need for expanding its facilities for medical education can be achieved promptly and on the scale required.

As to the need for more applicants to medical and dental schools, during recent years, the number of college graduates has been increasing, but the number of college students applying for medical school has declined.

In 1948, medical school applicants reached 6.6 percent of college graduates but this percentage had declined to 3.9 percent in 1958. As a result, for all schools combined there are now only about two applicants for each one accepted, and many schools are having serious difficulty in filling their first-year places with well-qualified students—that is, qualified both intellectually and emotionally and with a real interest.

Among the reasons why medicine as a career is declining in popularity are the length of time and the high cost of medical training; competition from many other stimulating careers, especially in science; the comparatively small number of scholarships and training grants available for medical students; the lack of part-time jobs, which are generally available for other graduate students; and the failure to interest high school and college students in the attractiveness of a medical career.

Medical school faculties and others feel that, with the increasing complexity in medical science, it would not be wise to cut down the number of years now devoted to medical training, including internship and residence.

A considerable number of fellowships are available for graduate work in the sciences through the National Academy of Science, National Institutes of Health, the Defense Department, other Government agencies, and private industry. Fellowships are available in other fields under the provisions of the National Defense Education Act. Yet very few fellowships or scholarships have been made available for medical students, except for those being trained in research work.

There are a number of constructive measures which can be taken to overcome these obstacles. There should be an expansion of scholarships from Federal, State, and private agencies for students in medical schools, especially for those from lower income families who cannot afford the high cost. Likewise, there should be an expansion in loan funds, such as provided under the National Defense Education Act, with interest fixed at 3 percent, to start 1 year out of college, and with payments spread over a 10-year period.

I understand that about 3,000 medical students obtained small loans under NDEA last year. More States should follow the example set by New York this year in subsidizing the difference in interest between the going rate charged by the banks and the 3 percent to be paid by the student.

The proposed program of Federal scholarships for talented medical and dental students in need of financial assistance would go a long way to meeting this problem of shortage in applicants, and would be particularly helpful for those coming from families with low or moderate

incomes. The matching cost-of-education grants of $1,000 for each scholarship would also be of assistance in meeting the operating deficits of the medical and dental schools.

In conclusion, it is my considered opinion that to continue and expand the progress we have made in medical science and health care, a program of grants for the modernization and expansion of medical and dental schools and the program for scholarships with the accompanying cost-of-education grants, as provided in H.R. 4999, are urgently needed. Three exhaustive studies during the last 4 years have well documented this need. I therefore strongly urge action on these proposals by the present Congress.

Thank you very much.

Mr. FRIEDEL (presiding). Thank you, Mr. Folsom.

Mr. Macdonald?

Mr. MACDONALD. I just have one question. It is good to see you up here again, sir.

Mr. FOLSOM. Thank you.

Mr. MACDONALD. You say that roughly now 50 percent of the students that apply for medical schools are turned down; is that correct?

Mr. FOLSOM. Yes, sir.

Mr. MACDONALD. And you think that is not enough. What percentage do you think should be turned down in order to hit a norm that medical schools would like?

Mr. FOLSOM. This varies quite a bit. The topflight medical schools now have applicants of about 8 or 10 to 1 from which they can make a choice, and those that are not so well known and not so well established a much smaller choice. I wouldn't know what the average should be, but I think it is alarming due to the fact that the rate has been going down too steadily. There are many other things that have to be considered besides a person's standing in his class.

Mr. MACDONALD. But in reverse, is it not alarming, but it is not good that more people can be accepted, because one of the complaints we hear and one of the problems that faces the medical profession, and which can be treated by this bill, is that there are not enough doctors presently to go around. Do you think one of the ways of meeting this problem would be to expand and let in more people?

Mr. FOLSOM. You have to be sure they are qualified. Unless they are well qualified emotionally, intellectually, and have a real interest they will go to medical school and flunk out.

Mr. MACDONALD. Just one last question. If you can capsule it, what is an emotionally adjusted applicant?

Mr. FOLSOM. That is up to the medical profession to decide. Some people can make good doctors and others can't, and they would like to try to find out ahead of time who is going to turn out to be a good doctor. You will have to ask the professional people that question.

Mr. MACDONALD. In other words, all this stuff I hear about the quota system being applied is just talk?

Mr. FOLSOM. It has changed considerably in the last 8 or 10 years. There are not nearly as many applicants to choose from now as there used to be and it is an alarming situation.

Mr. MACDONALD. Thank you.

Mr. FRIEDEL. Mr. O'Brien?

Mr. O'BRIEN. I have no questions. I want to compliment you on a very fine presentation. I would also add that the witnesses I have heard, including yourself, are obviously not pie-in-the-sky witnesses, but they are looking forward a number of years to meet the Nation's needs.

Mr. FRIEDEL. Mr. Collier?

Mr. COLLIER. Mr. Folsom, I regret that through no fault of my own I was not able to hear your verbal statement. I shall read it, however. I would like to pose one question because I think it is important enough to explore from the standpoint of opinions. It is one which I asked yesterday, also. We were told in testimony by the Secretary that it would take roughly 2 years before additional facilities in the existing colleges could be completed and be ready to accept an increasing enrollment in medical schools. We were also told that where there were no facilities at all it would take somewhere between 3½ to 5 years to complete those facilities. Repeating again that this program is basically divided into three phases, the brick and mortar, and the scholarship, fellowship programs, and so on, does it not seem feasible to you that in the first 2 years at least of this program the emphasis should be placed upon providing the physical facilities so that they would be available to accommodate increased enrollments at such time as they were completed?

Mr. FOLSOM. Yes, I do think that the emphasis ought to be placed on the construction grants first, but I would hate to see you postpone the scholarship provisions because I think we have to get more people interested in going into medical schools, and that is a longrun affair.

Mr. COLLIER. If the program were passed in a form that would provide the bulk of the funds for the first 2 years for the so-called brick and mortar phase of it and facilities, and were to include as part of the program an effective date 2 years hence for getting into the incentive recruiting of students would you not serve the same purpose but be approaching the problem in a bit of a more practical way?

Mr. FOLSOM. But I think the priority of this is so high that I would still strongly urge you to do both of them. I think we can well afford to do them because I don't think there is anything more important than to provide for the health care for the country.

Mr. COLLIER. We are told that at the present time existing facilities are accommodating all of the students which can possibly be accommodated. Assuming that we take your point of view on this what do we do with the funds provided for this purpose if in fact the existing facilities cannot accept more students?

Mr. FOLSOM. I don't think the present situation is quite fair because it is such a handicap now to the youngster from a low-income family or middle-income family who just does not want to take on a heavy load of expense for many, many years of training for the medical profession. We are confining our applicants too much to the people in middle and higher income and it is really not fair for the youngsters in other type families. I think it would ease that situation if we had more scholarship or loan funds available.

In other words, we are not getting a good cross section, as we should, from the total population.

Mr. COLLIER. If you have those, as you say, from the middle and higher income class families who are already in medical school and

assuming the same trend will probably be the case in the next 2 years, what do you do about those in the lower income groups if the present facilities can't handle them?

Mr. FOLSOM. You get a better selection. You have more applicants to pick from. I think this would be a gradual expansion as far as the existing schools are concerned. I don't think you would have to wait 2 years to get them to increase to some extent the present student body. Some of them could probably come within a year or so.

Mr. COLLIER. I am generally in favor of the legislation. I am just trying to understand what steps should come first, where the emphasis should be placed on the program at its inception.

Mr. FOLSOM. I agree that the first priority is the modernization of existing schools and construction of new schools. Then if you have to postpone any of it you could phase into the scholarships more gradually. It would be a practical program.

Mr. COLLIER. Thank you very much. That is all.

Mr. FRIEDEL. I would like to say to the members of the committee we have a lot of witnesses. Is there any other member who would like to ask a question?

Mr. MOSS. Yes, Mr. Chairman.

Mr. FRIEDEL. Mr. Moss.

Mr. MOSS. First, Mr. Folsom, I would like to express my pleasure at seeing you back on the Hill. I think you had a most distinguished record as Secretary.

Mr. FOLSOM. Thank you very much.

Mr. MOSS. And I think you have made an excellent statement here today. On this matter of priority, if a priority is to be assigned by this committee, isn't it true that the priorities would be so closely spaced it would be difficult to differentiate as to where the emphasis should go first?

Mr. FOLSOM. Yes, I would agree on that.

Mr. MOSS. On page 8 of your statement you express concern over the decline in the number of applicants for medical schools. This gives the schools a far less representative group from which to select the students, and if we provide now for scholarships we will probably be upgrading the caliber of those entering the study of medicine immediately. We will encourage more than the present 3.9 percent which you cite for the year 1958?

Mr. FOLSOM. Yes.

Mr. MOSS. Your concern there has not been that they are expecting more, but rather that fewer are applying?

Mr. FOLSOM. Yes, sir.

Mr. MOSS. And it is equally important here that we increase the number of applicants as to provide facilities for yet additional students?

Mr. FOLSOM. Yes, sir.

Mr. MOSS. I have also been interested in the fact that we have tended in discussions here to lump together all medical schools, and yet within the medical schools themselves we have differing problems. Have the schools of public health access as readily to matching funds from private sources as the medical schools themselves?

Mr. FOLSOM. No; I doubt it. They have a more difficult problem.

Mr. MOSS. Do you think that the need here is as urgent?

Mr. FOLSOM. Yes; and of course we did get some grants for public health schools recently through congressional action.

Mr. MOSS. Do you think the need is sufficiently urgent to justify a slight enrichment of the Federal contribution for the expansion and construction of facilities in schools of public health?

Mr. FOLSOM. I would like to study that a little more carefully. Offhand, I would say "yes," but I wouldn't want to give a categorical answer until I really looked into the situation.

Mr. MOSS. I would be interested in your more carefully considered opinion.

Mr. FOLSOM. I will talk to other people and get a little better informed on it.

Mr. MOSS. Thank you, sir. Those are all the questions, Mr. Chairman.

The CHAIRMAN. Mr. Devine?

Mr. DEVINE. Mr. Folsom other than the reasons you have given here about the length of time it is to take a medical course and dental course, 10 or 11 years, what other reasons did you feel exist for the situation today rather than what it was 20 years ago?

Mr. FOLSOM. Well, in the first place, we have a big increase in population projected ahead and if we don't increase we won't keep up in the ratio of number of physicians to population. There is no indication we ought to cut down on the number of physicians per thousand population.

Mr. DEVINE. Twenty years ago, Mr. Folsom, of course we had a lot of persons who were making applications to get into medical and dental schools and on that basis the requirements were quite strict and many of them were rejected. Now you say it is necessary to try to induce the younger people to come into this profession, and yet we don't have the facilities to accommodate them if they do; is that correct?

Mr. FOLSOM. Yes, the two go together. We need the facilities and we need more applicants too.

Mr. DEVINE. I think if we had the facilities probably there would be more applicants that wouldn't need the Federal aid or scholarships.

Mr. FOLSOM. That does not necessarily follow because now we are not getting a wide enough choice. The applicants, as I indicated, have gone down considerably, from 5 or 6 to 1 and now it is down to 2 to 1, and we know the medical schools are saying that they are not getting the quality which they desire.

Mr. DEVINE. Is there a possibility that the medical profession is not as attractive today as it was years ago?

Mr. FOLSOM. I indicated several reasons why. I think to a youngster science offers a much more attractive career right now than medicine, because in the first place it seems to have a lot more glamor and a man working for a Ph. D. in physics or chemistry, for instance, will find fellowships readily available.

Practically all the graduate students in physics, and chemistry, and other science studies have fellowships. They are available, not only from Government but from private industry. If a youngster gets his Ph. D., he starts in immediately at a very high salary; whereas the medical fellow has 4 years more to go before he will be making a living wage.

Mr. DEVINE. That was true many years ago, too, was it not?

Mr. FOLSOM. Not to the extent it is now. There wasn't the competition with science that there is right now.

Mr. DEVINE. I am not talking about the competition. I am talking about the length of time it takes to receive the medical education.

Mr. FOLSOM. Oh, yes; but you didn't have the competition in other fields at that time which pulled them away from medicine. I think there is much the medical profession can do to attract many more people. I think they ought to do a better job of telling high school students or college students about the profession and why it is desirable to get more people in, and try to get them interested. I think they can do a better job than they have been doing.

Mr. DEVINE. Thank you very much.

The CHAIRMAN. Mr. Dingell?

Mr. DINGELL. Thank you, Mr. Chairman. Understanding the shortness of time, Mr. Chairman, I shall be very brief. Mr. Folsom, it is a privilege to have you before this committee.

Mr. FOLSOM. Thank you.

Mr. DINGELL. I recall very well the very fine job you did when you served in the Government as Secretary of Health, Education, and Welfare, and I am happy to note that you are continuing your good work. I commend you for what you did as Secretary and also for what you have done today in presenting this committee with this very fine and helpful statement.

I would just like to add one little bit to the record, and that is to discuss with you briefly the proposal which you alluded to in your statement which came before this committee in 1956. That was the proposal which you, as Secretary of Health, Education, and Welfare, and the Eisenhower administration endorsed. That proposal was substantially identical to the bill which is before us today, was it not?

Mr. FOLSOM. As far as the construction feature.

Mr. DINGELL. Yes.

Mr. FOLSOM. We covered research and teaching facilities, and Congress at that time made grants for research but not the teaching facilities, so this bill now goes into the teaching facilities.

Mr. DINGELL. I intend to treat of that. We did not have a scholarship proposal in the bill at that time?

Mr. FOLSOM. No.

Mr. DINGELL. However, as I recall the testimony at that time, the administration did allude to the problem of the student in meeting the cost, the very substantial cost, which he faced.

Mr. FOLSOM. Yes.

Mr. DINGELL. And the administration at that time was aware of this difficulty. As I remember, the substantial difference in the field of construction grants which existed between the proposal then and the present proposal was simply that the administration proposal at that time did not provide for incentive features in the grants. Am I correct?

Mr. FOLSOM. No; they were straight 50–50 matching grants.

Mr. DINGELL. Would I be fair in inferring that you do support the 66⅔-percent increment which will go to facilities under certain circumstances in the present bill now?

Mr. FOLSOM. Yes; I read this bill. I think they are pretty sound.

Mr. DINGELL. Mr. Folsom, you do support the provision with regard to scholarships today?

Mr. FOLSOM. Later on the Eisenhower administration, when I was Secretary, advocated a scholarship program when Congress was considering the National Defense Education Act. At that time, the administration proposed a limited scholarship program for undergraduate students, and that was deleted by Congress, but the loan fund was included.

I still feel, myself, that it would be well to have a scholarship program under the National Defense Education Act, as well as a loan program. I think there is a need for both. That is why I am particularly glad to see the scholarship provision in this bill.

Mr. DINGELL. There is one other section I haven't noticed received a great deal of attention from the committee and from the witnesses in questions back and forth, and that is the provision with regard to additional grants to schools whose students happen to be recipients of these scholarships, to cover the deficits which happen to exist between the tuition or the scholarship and the actual cost to the school. This is a substantial factor, is it not?

Mr. FOLSOM. Yes. Of course it would not be very a large item as for the school, but very helpful. The precedent was established under the National Defense Education Act. In the National Defense Education Act provision is made for fellowships up to $2,500 for graduate students, and the school selects the individual; and for each fellowship granted to a school there is a matching grant of $2,500.

This follows exactly that same principle. I think it is very desirable.

Mr. DINGELL. I did not mean that the cost of this to the Government was going to be substantial; I meant that the cost to the schools is a considerable problem to them.

Mr. FOLSOM. Yes; it is.

Mr. DINGELL. We might also approach it from the standpoint, Mr. Folsom, that these schools are performing a public service and in operating at a deficit are contributing to the general welfare of the population and almost in effect serving a governmental function.

Mr. FOLSOM. Yes; I think in that regard medical schools are in quite a different category from many other graduate schools.

Mr. DINGELL. Yes; because they are providing the people who look after the health of the population, which is a very intimate and a very important thing in the society.

Mr. Folsom, I do want to commend you and thank you very much for your kindness this morning.

Mr. FOLSOM. Thank you, Mr. Congressman.

The CHAIRMAN. Are there any further questions? Mr. Curtin?

Mr. CURTIN. Mr. Chairman, I would like to ask a question.

Mr. Folsom, you say there are presently very few scholarships or fellowships available for medical students. Do you know whether there are any statistics available as to just how many such scholarships and fellowships there are?

Mr. FOLSOM. No. I imagine maybe Dean Anderson, president of the American Medical Schools Association, could probably give you the answer to that, but I have not had figures available to me. However, I know when I was Secretary we found very few.

Mr. CURTIN. Do you know whether or not all of those that are available are taken up?

Mr. FOLSOM. No; I would not know that.

Mr. CURTIN. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Dominick?

Mr. DOMINICK. Mr. Folsom, there are a great number of turndowns at the better qualified schools of applicants for medical education. Is that not true?

Mr. FOLSOM. Yes; because there is a doubling up of applicants just like there is of applicants to colleges generally, so the better known schools probably get 8 or 10 for every 1 they can take and there are naturally going to be higher turndowns.

Mr. DOMINICK. Do you know whether any of these applicants cross-file for other schools?

Mr. FOLSOM. Oh, surely.

Mr. DOMINICK. Do many of them go to other schools?

Mr. FOLSOM. I imagine they do.

Mr. DOMINICK. Do you have any statistics on that?

Mr. FOLSOM. No, I have not, but I think probably the medical school association would have them.

Mr. DOMINICK. Secondly, we have had testimony indicating that part of the problem is not necessarily in the number per hundred thousand, but in the distribution of doctors. Do you have any suggestions on how this situation or this problem might be cured?

Mr. FOLSOM. I know there have been suggestions, as Congressman Fogarty's suggestion in answer to a question that there might be some incentive in the loan features, to have a loan provision in which you could forgive the loan if they go to certain localities. But it would be very difficult to work out a plan like that in practice.

We do have in the National Defense Education Act, as you know, the loan provisions there, that if a person goes into teaching he is forgiven 50 percent of the loan, or 10 percent for each of five years. Of course it would be possible to work out some provision like that if you had the loan fund here, but it would be hard to draw the line and say in what areas these doctors should practice, because the situation changes so from time to time. So I don't know of any feasible way of doing that.

Mr. DOMINICK. Thank you, sir. That is all, Mr. Chairman.

The CHAIRMAN. Anyone else? Mr. Folsom, thank you very much. We are glad to have your presentation here of this problem and we appreciate your being back with us again.

Mr. FOLSOM. Thank you. I am pleased to have been here.

The CHAIRMAN. Dr. George A. Wolf, Jr. Dr. Wolf, will you identify yourself for the record, please, sir?

STATEMENT OF DR. GEORGE A. WOLF, JR., EXECUTIVE DIRECTOR AND VICE PRESIDENT FOR MEDICAL AND DENTAL AFFAIRS, TUFTS UNIVERSITY, BOSTON, MASS.

Dr. WOLF. Yes. I am Dr. George A. Wolf, Jr., executive director of the Tufts-New England Medical Center and vice president for medical and dental affairs at Tufts University. From 1952 to 1961 I was dean of the University of Vermont, College of Medicine.

The CHAIRMAN. Very well. We are glad to have your statement.

Dr. WOLF. Thank you. With your permission, Mr. Chairman, I would like to take a somewhat different approach here and use some examples rather than statistics to indicate what has been accomplished by this type of legislation and what I think this legislation under consideration today might accomplish.

I have been around just a little bit. I have been in Iran, I have been in Europe, and I have visited many institutions here in the United States, but I would like to confine my remarks to the New England area because I am more familiar with that than any other.

I am also a member of the Advisory Council to the Health Research Facilities Construction Division of the U.S. Public Health Service.

New England has always provided somewhat more educational opportunities for non-New England people than have many of the other regions of the country. For example, about 60 percent of the medical students at the University of Vermont, College of Medicine, are not residents of the State of Vermont.

The well-known private schools in New England also have predominantly out-of-State enrollment. When people think of New England, they think in terms of Yale and Harvard and their very large endowments, but I think there are two things you must realize about this region. One is that the income from the large endowments which Harvard and Yale have, for the most part, is restricted by the donor to specific use, and I think if you inspect these endowments you will find in most instances building is not included in the use to which these endowment incomes can be put.

The second point is that New England is often thought of in terms of being a thrifty part of the country and it has beautiful scenery. This beautiful scenery contributes to their thriftiness, because the nature of the land up there is such that it does not produce much income.

Therefore, you will find in the States of Maine, New Hampshire, and Vermont a rather low per capita income. Massachusetts and Connecticut are somewhat more prosperous. However, it has been the tradition of these areas for years, as you know, to develop private schools and private hospitals and not to have State schools. As a matter of fact, there is only one State-supported medical school in all of New England and that is the University of Vermont, supported by one of the smallest and poorest States in the area. Yet the people of Vermont are supporting medical education at the rate of two dollars a head.

On the other hand, should the State of Massachusetts build a medical school when they have three medical schools in Boston—Tufts, Boston University, and Harvard—and one dental school at Tufts?

In addition there is a rather high rate of acceptance of Massachusetts residents in medical schools, even though they do not have a State medical school, whereas in Maine the picture is entirely different because the rate of acceptance of medical students is quite low and they do not have a medical school. Should Massachusetts, Maine, and New Hampshire, with their limited assets build a new medical school at the present time when they are using their State funds to subsidize medical students at the University of Vermont?

Connecticut is already planning State medical and dental schools,

Brown University in Rhode Island is also considering a medical school.

Thus, New England is a very diverse area and must be considered from the standpoint of the individual institutions and their specific problems. This is not intended to imply that other areas are not diverse. Remember, I am using New England as an example, but its diversity tends to support very much the variable matching formula for construction grants that is in this proposed legislation.

In awarding matching construction grants up to 66⅔ percent of the total cost, the amount of matching funds should be base primarily upon the judgment of the professionals who sit on the advisory councils.

Inspecting various individual institutions and applying the funds where they will do the most good, will accomplish the most for the country. It has been demonstrated by the activities of the health research facilities construction division that research construction dollars have served to uncover and bring out local money. I would like to refer to two simple examples which occurred in New England.

Incidentally, I have some pictures here which I think you may have difficulty seeing and I apologize, but being a thrifty New Englander. I felt the expense of getting these blown up in size to where they could be more easily seen to be prohibitive. This is the University of Vermont College of Medicine, which is a 50-year-old building. The college had not built at all since that time up to a few years ago. As a matter of fact, it converted some coalbins in the basement of that old building to research laboratories, and it also remodeled this framehouse which is a very lovely old house, but unfortunately it was built in 1793. It is still in use for medical research.

One of the laboratories in the coilbin looks as you can see, crowded and probably not the best place in the world for people to work, particularly the young lady shown there.

The alumini of the University of Vermont College of Medicine had never contributed more than $5,000 a year to the school and it had never had a private gift or a foundation grant for building in 50 years. When a grant became available from the Health Research Facilities Construction Division, $700,000 in 3 years was raised from the alumni body and from private sources over a half million dollars were raised in 3 months. As a result a new research part of the University of Vermont College of Medicine was built and, as you can see, is being expanded.

However, the rate of expansion of the program is so great that the 1793 building is still being used for medical research as is the old medical school building. Unfortunately, and I think this point has been made by the other gentlemen, the medical students who are learning to be our future doctors are still in the 50-year-old building, so that something has to be done about this. We just can't go on building only research facilities.

Even though the research building is excellent, we still need space for the medical students. The Tufts University School of Medicine and Dental Medicine are in a converted factory building built 30 years ago right in the middle of Boston.

Now, this complex includes several hospitals as well as the medical and dental schools, but in this 30-year-old factory building there are 400 dental students, 400 medical students, and 30 graduate students, appropriate staff and their research activities, all in a converted factory building.

They make the windows smaller, clean it up, and put in partitions, and it really works out very well. However, this is only part of the picture because some of the best research at Tufts University, in the hematologic field, is going on in this old thing which was built about 100 years ago, still going on very actively, in spite of the fact that additional research space has been built.

Here is another instance of some men who are doing medical research, obviously working in a basement. You can see the pipes and the big electrical switches in the background.

Again when health research facilities construction money became available they took over another old factory, obtained some money from the Commonwealth fund to match, and added 64,000 square feet of converted factory space for the expanding research program in the college of medicine. The dental college was not able to get this matching money and therefore they now have just converted an old firetrap built in 1850 into a research laboratory and have moved into a wooden furniture loft to conduct their research.

My point here is that we are not overbuilding in these general areas and that we are making compromises. We are using what we have. We are buying factory buildings cheaply and converting them to fairly effective buildings. We are not tearing everything down and building beautiful new glass structures. In other words, the money we think has been spent well and we think more money is still needed.

In spite of the progress that has been made at Tufts we still have the medical and dental students, 400 each, crowded into the old 30-year-old converted factory building, so something again must be done about that. This is only, as I say, an example, and I know of other instances all over the country where this sort of thing is going on.

Funds available from the Federal Government on the matching basis have permitted expansion of our research programs and have uncovered previously unobtainable private funds, and I give you Vermont as a good example. There are a lot of unmet needs, however. Obviously the coalbin basement is not the appropriate place to do research. It isn't a good place to keep coal any more, as a matter of fact.

There are other areas in New England where the same kind of situation exists.

For example, at the University of Maine there is a old building, and Heaven knows how long ago this was built—I have seen this myself—where very effective work on health-related genetics in the department of biology is being conducted. They too have laboratories which are in basements, as you can see.

At the University of New Hampshire in the College of Agriculture they are doing some good work with viruses, and they are working in this concrete block building, which is perfectly all right for chickens, but I don't think it is very good for medical research on viruses these days.

We need a little bit more elaborate quarters than that. This is the inside of the laboratory which shows people working under crowded conditions.

Dartmouth Medical School is a 2-year medical school in New Hampshire. It has a wonderful reputation and it gained this reputation, it is true, in this building, which I think you would say is quaint and unique, but probably not a good medical school building.

However, Dartmouth with their ability to raise funds from private sources—as you know, they are a fine school—and with Health Research Facilities Construction Division money came up with this building. I consider that progress, not only in terms of the building; the important thing that is when that building went up the staff improved dramatically. They added many good people to the staff who are not only doing research but are also teaching students. Again, I refer to the fact that the needs in different places are different and that a variable matching formula is most important.

I would like to add one factor about libraries. In the development of research laboratories most of us think of test tubes, and machinery, and that sort of business, but libraries are just as important a part of the research program as are research laboratories and I urge strongly that funds be made available for libraries.

Finally, I would like to say a word about the manpower situation. There is one thing that hasn't been mentioned here and I am not sure why—I have had the privilege of being here the last 2 days—and that is that the birth rate in 1946 went from about 19 per thousand to about 24 per thousand at the national level and in some States, as you know, the rise was a good deal more than that.

In 1946 this happened rather suddenly for I think rather obvious reasons. These boys and girls will be of the age to attend medical and dental schools in about 1966 or 1967 and I would venture to predict for the record that we will see quite a dramatic increase in the number of applicants at that time and then 20 years from then, in 1986, their boys and girls will be applying to medical and dental schools.

I think we should pay attention to this significant statistic. It is perfectly clear from my own experience, as the other men have mentioned here today, that the highly qualified student often would rather pursue the science of physics or mathematics tuition-free on a salaried fellowship and get a salaried job 4 years after his bachelor's degree than he would to pay $1,200 to $1,400 a year tuition at a school of medicine or dental medicine for 4 years and then spend 1 to 5 years working up to a salary of $3,000 per year as a resident in some hospital.

It is not difficult to calculate with a pencil that from the time this young doctor leaves his residency to the time he stops work at age 65 he will have to earn $4 for every $1 that a high school graduate would have to earn to make the same life income. As has been said here, it has been shown that our medical and dental students are deeply in debt, and I can attest to this from my own experience at Vermont and Tufts.

It is difficult to see why we allow these financial barriers to stand in front of our medical students when we want more doctors and dentists. It is just as simple as that. It seems that scholarship funds would go a long way toward removing these barriers and a much longer way than loan funds.

Again, I feel this very strongly. These scholarship funds, in my opinion—I wrote this before I heard yesterday's testimony—would complement nicely the teaching construction grants as proposed in this bill. The reasons for this are there is a leadtime, so to speak, in recruitment. In other words, young people make up their minds before they apply for medical school that they are going to apply, so there is a certain amount of time lost here, but in addition this bill has taken into account some of the things that you gentlemen brought up and that is it is phased.

If you will read it carefully, and I am sorry I don't have it at hand, you will note that the grants for scholarships are made first to the first-year class, then the next year to the first- and second-year classes, the next year to the first-, second-, and third-year classes, and so on, so that I think this is in part an answer to some of the questions that you have raised.

In summary, the needs for additional research construction funds have been demonstrated in my opinion and the value of the matching formula has been described by example. The hope is expressed that expanded legislation will permit a variable matching formula, health-related teaching construction funds, health-related research construction funds, in greater volume, of course, library construction, and scholarship funds for medical and dental students.

Mr. Chairman, I appreciate your courtesy in permitting me to appear before you.

(The statement of Dr. Wolf follows:)

Gentlemen, I am Dr. George A. Wolf, Jr., executive director of the Tufts-New England Medical Center and vice president for medical and dental affairs of Tufts University. From 1952 to 1961 I was dean of the University of Vermont College of Medicine. I am a member of the Advisory Council to the Health Research Facilities Construction Division of the U.S. Public Health Service. Before coming to Tufts University this summer, I received a Commonwealth Fund fellowship which permitted me to visit medical centers, including medical and dental schools, hospitals, and research institutes in Scandinavia, the British Isles, and Switzerland. I have also been privileged to act as consultant to the University of Massachusetts, the University of Maine, the University of Connecticut in their explorations concerning the starting of a new medical school. In addition, I have made project site visits to Dartmouth, University of New Hampshire, Brandeis University, Harvard, MIT, Boston University, New England Deaconess Hospital, Yale, Hartford Hospital, University of Rhode Island and Rhode Island Hospital. Furthermore, I have visited, in a variety of capacities, medical institutions outside of the New England area over the past 10 years. I believe my experience in New England qualifies me to appear before you to speak of the benefits already derived from the Health Research Facilities Construction Division program, but, in addition, to emphasize the future needs.

NEW ENGLAND

New England has always provided somewhat more educational opportunities for non-New England people than have other regions of the country. For example, about 60 percent of the medical students at the University of Vermont College of Medicine are not residents of the State of Vermont. The well-known private schools in New England also, of course, have predominantly out-of-State enrollment.

Although the number of dollars for research construction in New England and the Northeast have been high, the percentage of approved applications has been low and in itself testifies to the needs of the area. Many, in considering New England, think of Harvard and Yale with their large endowments but neglect to recognize two important facts. Most of the income from the endowments of these two schools and, of course, all other universities and hospitals are restricted to some specific purpose following the wish of the donor. It is

rare that donors provide in their gift that income can be used for building. It is true, of course, that gifts for building purposes are given to universities and hospitals, but, I repeat, it's rare that income for endowment can be used for program of construction. Thus, the size of endowment is not a measure of the schools' or hospitals' ability to build new buildings.

New England is thought of in terms of beautiful scenery and thrift, but the beautiful rugged hills lend themselves poorly to the use of modern farm machinery. For example, hardly a year passes without a farmer being killed by a tractor built for tilling the western plains, which flips over on a rocky hillside. Thus, although the scenery is beautiful, the thrift generates from low per-capita income in Maine, New Hampshire, and Vermont. On the other hand, Massachusetts and Connecticut are somewhat more prosperous. Nevertheless, the tradition in New England is the maintenance of private schools and hospitals. There is only one State-supported medical school in all of New England—the University of Vermont College of Medicine. Thus, we find, next to the well-endowed private schools, other private schools with woefully small endowments which are not only inadequate for operational purposes, which results in high tuition charges to students, but also, as has been said, endowments restricted by donors so that funds cannot be used for building.

What about the role of the New England States in supporting medical education and research? The only State medical school in New England, the University of Vermont College of Medicine, is being supported at a rate of $2 per capita by the residents of Vermont, probably the highest per capita rate of support of medical education in the country.

But, should Massachusetts build a State medical school when they are already subsidizing the medical students at other schools, when there is a high rate of acceptance of Massachusetts residents in medical schools and when they are already three private medical schools in Boston? Should Maine and New Hampshire build new medical schools when they are subsidizing medical students at the University of Vermont? Connecticut is planning State medical and dental schools. Brown University in Rhode Island is also thinking of starting a medical school. Thus, New England is a very diverse area, and thus must be considered from the standpoint of the individual institutions and their specific problems.

VALUE OF VARIABLE MATCHING FORMULA

It is not intended to imply that other areas are not equally diverse, but simply to support the idea that a variable matching formula for the awarding of construction grants based primarily upon the judgment of professionals who sit on the advisory councils would permit aid to those individual institutions where such aid would guarantee maximum results. It has been well demonstrated that Federal research construction dollars have served to uncover and bring out local money and private funds.

Two simple examples, however, emphasize specifically how this can happen in the case of research construction. The University of Vermont College of Medicine had not built for 50 years. Its physical expansion had been accomplished by the conversion of coal bins and the remodeling of a frame house built in 1793. Its alumni had never contributed more than $5,000 a year to the school, and it had never had a private gift or a foundation grant for building in 50 years.

When a grant became available from the Health Research Facilities Construction Division, $700,000 was raised from the alumni over a 3-year period and one-half of a million dollars was raised from private donors and foundations in 3 months. Therefore, a new building opened 2 years ago, which is now full of research activity in the health-related area, and an extension of this building is nearing completion at the present time. Regardless of this, the coal bin and the 1793 house are still being used to their full capacity for health-related research. The medical students, however, are still being taught in the 50-year-old building.

The Tufts Schools of Medicine and Dental Medicine are in a converted factory built 30 years ago with extensive crowding by 400 dental, 400 medical and 30 graduate students, staff and research activities. Another factory next door was purchased for a fraction of its replacement cost, and, because of the Health Research Facilities Construction Division which permitted matching by an unrestricted grant from the Commonwealth Fund, an additional 64,287 square feet of converted factory space is now available for the expanding research program of the college of medicine. Unfortunately, the needs of the dental school

in terms of research, because the Commonwealth grant was to the medical school, have not been met, and the dental school has been forced to convert a fire trap built in 1850 and the basement and one floor of a wooden furniture loft into research laboratories.

Moreover and also unfortunately, the medical and dental students are still crowded, although some of the research needs are being taken care of by the conversion of the factory building. It is obvious that funds for teaching construction are sorely needed, both at Tufts and the University of Vermont and elsewhere in New England and the United States of America, but the availability of research construction funds has permitted some partial satisfaction of research space needs, has permitted expansion of research programs and has uncovered previously apparently unobtainable private funds.

UNMET NEEDS

It is clear, however, that the needs are far from being met. Coal bins are outmoded, not only for coal but for carrying on modern research with its delicate instrumentation, complex microchemical techniques and quality investigation of elusive micro-organisms, to say nothing of the physical comfort of the scarce investigator and his hard-to-recruit technicians. Although great thoughts are still had on mossy banks and before the hearth at home, modern scientific methods demand space, instruments, and technical help to prove or disprove the ideas so obtained. There is good work going on, it is true, but too often a compromise is involved, and space limitations from the standpoint of size and adequacy are limiting factors, possibly as to quality and certainly as to volume.

The pictures in hand are those of buildings which I have visited personally which are being used for health-related research, which I and the investigators consider inadequate. Important work in genetics is going on at the University of Maine in an old converted house. Superior work in virology is being conducted in this concrete blockhouse better suited for chickens at the University of New Hampshire.

Dartmouth Medical School tried to hold onto its fine reputation in a quaint structure, and Health Research Facilities Construction Division funds helped build a modern building worthy of the school's tradition.

There are many such examples which I have seen in State, private, wealthy, and impecunious schools and hospitals testifying to the needs of more matching funds than are currently available, preferably by a variable matching formula. Acceptable structures now will become obsolete soon, and thus we must think of replacement of the inadequate, expansion, and future obsolescence.

LIBRARIES

With the expansion of research activity, the need for library space has increased enormously. The materials in libraries are just as important to the activities of an investigator as are the instruments and technicians referred to above. But we find it extremely difficult to raise funds for libraries, especially without matching funds.

MANPOWER

Most important of all is our future supply of students to head our laboratories and to apply the information obtained through research to our people. It is clear, from my experience, that the highly qualified student often would rather pursue the science of physics or mathematics or sociology, tuition-free on a salaried fellowship, and get a salaried job 4 years after his bachelor of arts or science degree than he would pay $1,200–$1,400 a year tuition at a school of medicine or dental medicine for 4 years, and then spend 1 to 5 years working up to the munificent salary of $3,000 a year as a resident in some hospital.

It is not difficult to calculate with a pencil that from the time he leaves his residency to the time he stops work at 65, he'll have to earn $4 for every $1 that a high school graduate would have to earn to make the same life income. It has been shown that our medical and dental students are deeply in debt at the time of graduation, although they are married and have families, as most normal people do these days. The rate of marriage is, of course, lower than that of their contemporaries who are on fellowships or who are working in industry. In our pursuit of more research and better health of our people, both here and abroad, it is difficult to see why we allow these barriers to occur in front of medical and dental students. Scholarship funds would go a long way toward removing these barriers. Such funds would complement nicely teaching construction grants.

In summary, the needs for additional research construction funds have been demonstrated. The value of the matching formula has been described by example. The hope is expressed that expanded legislation will permit a variable matching formula, health related teaching construction funds, library construction, and scholarship funds for medical and dental students.

I appreciate your courtesy in permitting me to appear before you, and I hope that I have provided you with information and thoughts which will assist you in making the important decisions of our current legislation in the area under consideration.

Mr. WILLIAMS (presiding). Thank you very much. Any questions? Mr. Friedel?

Mr. FRIEDEL. No questions.

Mr. WILLIAMS. Mr. Springer?

Mr. SPRINGER. Dr. Wolf, would you hold that picture up there of Dartmouth again?

Dr. WOLF. Yes.

Mr. SPRINGER. Would you hold up the one there of the white frame building up on the hill?

Dr. WOLF. The old frame building?

Mr. SPRINGER. Yes.

Dr. WOLF. Yes.

Mr. SPRINGER. What university is that?

Dr. WOLF. That is Dartmouth, the medical school.

Mr. SPRINGER. What is it now?

Dr. WOLF. Now I honestly don't know.

Mr. SPRINGER. But that is where the old medical school used to be?

Dr. WOLF. That is right. My point is this is what construction funds helped to accomplish.

Mr. SPRINGER. Is it your thought that primarily replacement of brick and mortar is what is going to make more doctors or improve the quality of them?

Dr. WOLF. I can say I think to date, and again speaking from my experience at the University of Vermont, that the construction of a research area improved the quality of our staff up there.

Mr. SPRINGER. Did it improve the number of doctors? Did it increase the number?

Dr. WOLF. No, because we have not been able to build additional teaching space to have additional students.

Mr. SPRINGER. Have you ever visited the University of Heidelberg?

Dr. WOLF. No, sir.

Mr. SPRINGER. Have you ever seen the medical school there.

Dr. WOLF. No, sir.

Mr. SPRINGER. You would admit it has a rather worldwide reputation, would you not?

Dr. WOLF. Did you say "has" or "had"?

Mr. SPRINGER. Has now; is that correct?

Dr. WOLF. Yes, sir.

Mr. SPRINGER. Has had for a hundred years, has it not?

Dr. WOLF. Yes, sir.

Mr. SPRINGER. At one time it was probably one of the three or four outstanding medical schools in the world. I doubt if there would be many students in this country that would even want to go there if they went by the looks of the buildings, which are dark and I don't know how many hundred years old, but they seem to turn out pretty good doctors.

About the time we were studying this thing in 1955 I visited there and I asked them why not a new building, and they were horrified at the thought that they should have a new building. This is the one that has tradition and all the things that go with it and they expect to be using this a hundred years from now.

Did you ever visit the University of Vienna?

Dr. WOLF. No, sir.

Mr. SPRINGER. You will admit it has some reputation throughout the world?

Dr. WOLF. Had.

Mr. SPRINGER. It doesn't have any more?

Dr. WOLF. Not as much as it used to have.

Mr. SPRINGER. But at one time it was the preeminent medical school in the world, wasn't it? The buildings were dilapidated, I would say, with spots on the walls and scratches on the walls. As I recall, there were marks on the outside, but it was still operating and still turning out a lot of doctors. Maybe they weren't, but the one I happened to talk with there was an elderly man who was the preeminent man in the world at that time—I can't think of his name now—in his particular field.

The thing I am coming back to is I think the quality in all of our medical schools is pretty high. Are you in agreement on that?

Dr. WOLF. Yes, sir.

Mr. SPRINGER. You have visited most of those in New England and are pretty well acquainted with them, aren't you?

Dr. WOLF. I have visited about half the medical schools in the country.

Mr. SPRINGER. About half the medical schools in New England?

Dr. WOLF. No, I have personally visited about half in the country.

Mr. SPRINGER. Northwestern?

Dr. WOLF. Yes, sir.

Mr. SPRINGER. Stanford?

Dr. WOLF. Yes, sir.

Mr. SPRINGER. Cornell?

Dr. WOLF. Yes, sir.

Mr. SPRINGER. Tulane?

Dr. WOLF. No, sir.

Mr. SPRINGER. University of Michigan? University of Illinois?

Dr. WOLF. No, sir.

Mr. SPRINGER. It is true today that the United States has a great many more of the quality medical schools in the world; isn't that true?

Dr. WOLF. I would think so.

Mr. SPRINGER. Which was not true years ago when the century opened. That is why you had people going to the University of Heidelberg or Vienna, because they did not have the quality or numbers of schools in this country. Is that not a fair statement?

Dr. WOLF. Yes, sir.

Mr. SPRINGER. I am not disturbed about the quality. I think the quality at least is fine, at least from what I saw, but the part that has been greatly disturbing to me is the numbers that are able to serve per 100,000 population.

If I back this bill, which I am inclined to do now, it is going to be on the basis that you and your people are going to turn out more doctors than you are now. I am satisfied with the quality of the doctor which this country is turning out in the medical schools that I know of, but it is the number of doctors that I am thinking of, especially in view of the demand of the armed services since about 1951. It is simply tremendous the numbers of doctors they want.

I will give you a further reason and then I will wind up. A great difficulty in a very prosperous agricultural area, such as I represent, one of the highest in the world, is you find almost no rural doctors. We talk about the ones that go out in the communities of 400 to 2,000. We have had three in the last 5 years that I know of. One was a Cuban, one was an Austrian, and one was a German, all refugees. That is all we were able to get out in the rural area in Illinois, a very prosperous one where the villagers themselves raised the money, put the man's building up, and his office.

There is the problem for America. As long as I live in Washington, I can always get good medical care, but if I go to Weldon, Ill. I have to drive 27 miles in each direction in order to find a hospital or a doctor. That is why I am interested in the passage of this bill.

Dr. WOLF. May I attempt to answer this last one again by example?

Mr. SPRINGER. Yes, sir; go right ahead.

Dr. WOLF. I would like you to compare Maine and Vermont. Maine has a physician-patient ratio of about 90 to 95 doctors per 100,000 population. These are approximate. Vermont has a physician-patent ratio of 140 doctors per 100,000 people. Vermont has a medical school—66 percent of the doctors in the State of Vermont are graduates of the University of Vermont.

Maine had a medical school which closed in 1930, somewhere around there, 1928 or 1930, and as you reach the period when those graduates are dying off the rate has been falling since that time.

You can interpret these figures the way you want, but my only point is, and I support something that some of the men said the other day, that I feel by giving an opportunity to young people to get a medical education and by increasing the output of the number of doctors, we can solve many of these problems of distribution of doctors.

I have another piece of evidence in Vermont. They have a law on the books which says the student, if he accepts the reduced tuition provided by the State of Vermont, must practice in the State of Vermont a year for each year that he accepted this reduced tuition, and then there is some penalty about paying the money back to the State.

Mr. SPRINGER. This is a similar provision to what the State of Mississippi has, which provides roughly $5,000 for a scholarship and you must practice there for a period of 5 years in an area of less than a certain population, or pay all the money back.

There are States that have these provisions in an attempt to get these people to the rural communities. Is not that true?

Dr. WOLF. That is true. We studied the rate of settlement of the graduate physicians in Vermont before a certain thing, and it will take me too long to tell you what that thing is, and after a certain thing. What is meant was that before that thing we certainly enforced the rule. After that thing we couldn't enforce the rule. Yet

the rate of settlement was the same before as after. It is my considered opinion from the study we did in Vermont that such a thing written into the law does not have an effect on making the young doctor stay there.

Mr. SPRINGER. Do you think if we wrote something in the law here with reference to these scholarships we would be more successful in getting some people in some of the rural areas?

Dr. WOLF. No, sir.

Mr. SPRINGER. It is your considered opinion we would not.

Dr. WOLF. No, sir. It is not only my opinion. It is based on that experience I had and the evidence I was able to get in Vermont that this does not work, at least in Vermont.

Mr. SPRINGER. Thank you, Mr. Chairman.

Mr. WILLIAMS. Mr. Macdonald?

Mr. MACDONALD. Dr. Wolf, I am delighted to see you here this morning representing New England. As a matter of fact, I have the honor of representing Medford in which as you know, Tufts is located, but there were a couple of things I didn't quite understand. On page 3 you said:

> * * * should Massachusetts build a State medical school when they are subsidizing the medical students at other schools * * *

What does that mean? Is there some such program in Massachusetts of subsidizing medical students.

Dr. WOLF. I probably should have expanded that a little more. When I said should Massachusetts, New Hampshire, and Maine build new medical schools when they are subsidizing medical students at the University of Vermont, it is all part of the same thing. The New England Board of Higher Education, was established 7 or 8 years ago and it represents all of the New England States. It has established a contract with the University of Vermont whereby Maine, New Hampshire, and Massachusetts pay a sum which is about $2,000 or $2,500 per student to the University of Vermont for them to give preference to residents of those States. Do you follow me?

Mr. MACDONALD. Not really, no.

Dr. WOLF. Johnnie Jones from Massachusetts wants to go to medical school. The University of Vermont has given Massachusetts a quota of 70 students who can attend the University of Vermont. Johnnie Jones applies to the University of Vermont. The University of Vermont looks him over and decides whether or not he is qualified for the study of medicine. If he is they then accept him over and above, say, a New York resident or someone like that. He is then charged the in-State rate of tuition; $550, instead of the out-of-State rate of tuition of $1,500.

In other words, he has the same privileges as the Vermont resident has, but the State of Massachusetts creates this by paying to the University of Vermont the sum of $2,000 or $2,500. This is not a unique pattern. There is a Southern Interstate Educational organization and the Western Interstate Compact for higher education in the West which does the same kind of thing. Does that answer your question?

Mr. MACDONALD. Yes. The second thing is you said there is a high rate of acceptance of Massachusetts residents in medical schools. Is that a fact? My mail would indicate that that isn't always the fact.

Dr. WOLF. It is not the highest, but it is high for States without State supported medical schools.

Mr. MACDONALD. Can you state categorically that the universities around Boston or Vermont that you are familiar with do not practice a quota system of admittance by virtue of race, or geographical location?

Dr. WOLF. Oh, no. In Vermont we have a quota on the basis of the geographical location of the applicant because we have a responsibility first to Vermont residents because it is being supported by the State; secondly to Massachusetts, Maine, and New Hampshire because they have contracts with the University of Vermont; and, thirdly, anywhere else in the country. The quota is only for those who are contributing financially to the medical school at the University of Vermont. The Boston schools have no quota in those terms.

Mr. MACDONALD. Are there any ratios in effect? Has any medical school that you know of kept figures about the racial origin of applicants and the number of those racial applicants who are turned down?

Dr. WOLF. Again, I was very close to admissions at the University of Vermont, and we had nothing on the application sheet of what the man's race, origin, or anything else was. We did have a picture, but that was not to determine his shade. It was to recognize him when he came in.

Mr. MACDONALD. I was not talking about color. I was talking about race.

Dr. WOLF. No, we did not ask that question on the application blank at all.

Mr. MACDONALD. Is that also true at Tufts?

Dr. WOLF. I don't honestly know. I am not that close to admissions. I would assume that most of the medical schools in the country do not have it on their application blanks and I know there are some areas that forbid it by law.

Mr. MACDONALD. Do you think it would be a good thing for all medical schools not to have that inquiry on their application?

Dr. WOLF. As a personal opinion, yes. I am the one who took it off the University of Vermont application blank.

Mr. MACDONALD. It was on there before?

Dr. WOLF. It was on there before, years ago. I took it off 7 or 8 years ago because that was my personal feeling about it.

Mr. MACDONALD. Thank you.

Dr. WOLF. There is no law concerning this in Vermont.

Mr. WILLIAMS. What percentage of colored students do you have at Tufts?

Dr. WOLF. I do not know. There are some, but I have not any idea what the percentage is.

The CHAIRMAN. One question. If the principle and intent of this legislation is carried out, a major decision of this kind would be left to the decision of the institution, would it not?

Dr. WOLF. What would be left to the decision?

The CHAIRMAN. As to whether or not this information would be requested in the admission application.

Dr. WOLF. Yes, sir.

The CHAIRMAN. Do you think it would be best for the institution to make that decision?

Dr. WOLF. I do.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Just one question. If I understood you correctly, your recommendation was that in the building grants we ought to use some discretion as to building grants where there are already large medical schools, such as Boston, and pay more attention to other areas where there are fewer medical schools in a state such as Vermont. Is that what you had in mind?

Dr. WOLF. No. My intent was that each institution had to be judged in terms of its own merits. In other words, you cannot say "We should not give money to Yale because they have a big endowment." Each institution has its own individual problem which I think requires study by professionals; in other words, the advisory councils.

Mr. YOUNGER. That is all.

The CHAIRMAN. Does anybody else have a question? Mr. Collier?

Mr. COLLIER. Dr. Wolf, I have been trying to establish some information here, unsuccessfully, because I have not had an answer that was anything but vague. I don't mean to be overly persistent, but I think it is absolutely essential to the proper approach to legislating this type of a program, so I am going to be specific. Taking Tufts, at the present time what is your enrollment in your medical school?

Dr. WOLF. Approximately 110 in a class.

Mr. COLLIER. Next year you could not handle 120 with your existing facilities?

Dr. WOLF. No, we have 800 or 900 applications.

Mr. COLLIER. It is the size of the classrooms and laboratories?

Dr. WOLF. Yes, sir.

Mr. COLLIER. If this program went into effect, and let's say if it were enacted in this session of Congress and went into effect for the school year beginning September 1963, will you be able to handle any more applicants or accept any more applicants in 1963, bearing in mind that you obviously need new facilities and you have to staff additional members of the staff?

Dr. WOLF. No, at that point we could not.

Mr. COLLIER. In 1964 would you be able to accept more?

Dr. WOLF. If you ask me this question about Vermont, I would say yes.

Mr. COLLIER. I am speaking just of Tufts now because you are very familiar with Tufts?

Dr. WOLF. There are different situations there. Tufts has just used "Health research facilities" money to convert this one factory building into research space. They had to get matching funds for that so that they have used up some available funds in recent construction. Vermont is different. That is why I am stressing that.

Mr. COLLIER. Granted that it is different from Vermont would you say that you are not unique in this respect, that there are other medical schools that have the same basic problem that you do at Tufts.

Dr. WOLF. I am sure there are some, yes. On the other hand, there are others like Vermont with working drawings right on the boards ready to go if this bill were to be passed, and one other point about Vermont is that they already in this new building used their own funds to build one classroom to take care of 50 percent more students, showing their intent.

Mr. COLLIER. The point that I am driving at, and I hope I can make this point, is that if Tufts is not unique in the problem that exists there, which is obviously not like Vermont, there are many that are in the same situation that Tufts is. Therefore, these many schools that we are speaking of that are in the same situation as Tufts would not in fact be able to accommodate additional students for 2, 3, or 4 years, depending on the type of physical facility and the securing of an adequate medical staff to staff these schools. Is this right?

Dr. WOLF. Yes; there are some, no doubt, in which this is the case.

Mr. COLLIER. One other question. What is your present medical staff at Tufts for this 100-odd students?

Dr. WOLF. I am sorry, I just can't answer it. I have only been at Tufts 3 months.

Mr. COLLIER. I think that for the first time establishes the point that I have been trying to make on the matter of priority of the use of money in the program, realizing that there is to some degree a phasing out. I think that this points up that it would not increase the enrolment. What it might do is provide financial assistance to students already in the college, but it would do nothing for a few years in certain areas of increasing the number of the students that could be accepted.

Is this a fair statement?

Dr. WOLF. Yes, but, again, I think you must think in terms of when the man is making up his mind to go to medical school and figuring about his finances. You must think of the time it takes for a student to get into medical school.

Mr. COLLIER. I have already indicated two answers to that. One is the preliminary program and the availability of funds in the National Defense Education Act, plus a proposal that at a given period of time when the facilities are available, then the scholarship funds would be expanded or grants would be made. It just seems to me to be the proper sequence of providing funds to meet the problem that we are trying to meet.

Dr. WOLF. But don't forget about this lag period of time. In other words, 3 years is too late. As a matter of fact, may I say one thing? I have had some experience in a rural community in Vermont and I have neighbors who are farmers and that have children, and I have watched these children grow up. I have watched the farmer look at his milk check coming in once a month and worry.

As a matter of fact, you can demonstrate that the rate of enrollment of farm children in the University of Vermont School of Agriculture follows the annual fluctuation in the farm income in the State of Vermont. This farmer is having to make plans for his children. He makes plans back in high school, really, because he has to decide that this boy is going to college or he is not. This means, even if he is a potential applicant for medical school, this decision is made 'way back in high school.

Then the boy gets to college and they have to decide whether or not he can go on to medical school. In making those plans 'way back in high school, this farmer has to look at how much it is going to cost him. In Vermont he knows, because the State is subsidizing the school, that it is going to cost his boy in tuition $550 a year and that if he went to Harvard, or Cornell, or some of those places it would cost him $1,500.

Right away he begins to narrow down on where this boy is going away back in high school. My point is, and I think some of the other men would agree with me, that if the Federal Government subsidizes medical student in this sense, with scholarships, and this gets generally known, then the kids who are now in high school are going to begin to think right away, "Ah, I can make mine medicine. I am not too poor to be a doctor. I am not going to have to stay here and work on the farm."

Mr. COLLIER. I think you are establishing my very point, that if such a program is set ahead and announced at a given date, the boy who is a sophomore in high school making plans is no different from the boy who is a senior making plans in reality if he intends to go to college, and so the program is set forth for him to consider the point regardless of whether it is when he is a freshman, or a sophomore, or senior in high school.

Dr. WOLF. Except I am making a plea for the boys who are now juniors in college and trying to make up their minds, and to get into medical school in the fall of 1963 they have to make up their minds this year.

Mr. COLLIER. Of course this is not unique to medical students. Let's face it. This is true of every parent with an income of less than $6,000 or $7,000 who is going to send his son or daughter to school, whether engineering school, or anything else. I realize there are facets to this that are slightly different, but really this problem of projecting the education for children, and preparing to meet the costs thereof, is not certainly confined to those going to medical school.

Dr. WOLF. No, but why should a boy or girl be penalized because he wants to go into dentistry or medicine, and that is the way it is now.

Mr. COLLIER. Well, I would have to go further then. Thank you, sir.

The CHAIRMAN. Mr. Keith?

Mr. KEITH. As a graduate of the University of Vermont who lived at one of its dormitories and cooked meals down in the basement with many medical students, I appreciate the problem that you have presented here and have some rather firm convictions concerning the best way to help the medical profession in the long run.

Would you say, for example, Dr. Donaghy was a good doctor?

Dr. WOLF. Yes, sir.

Mr. KEITH. He worked his way through medical school. He had very little in the way of financial assistance from his family, but there were scholarships available and there were means by which he could earn an income, and he did an outstanding job as a student and is doing an outstanding job as a doctor now.

Dr. WOLF. There is one point; but he was being subsidized by the State of Vermont when he went through medical school.

Mr. KEITH. He was? And that subsidization still exists?

Dr. WOLF. Yes, sir.

Mr. KEITH. It is commendable. It has kept him in the State of Vermont, has it not?

Dr. WOLF. No, I don't mean that. His tuition was much lower because he was a resident of the State of Vermont and because Vermont had a medical school which he could attend.

Mr. KEITH. It seems to me that the best way to keep the costs down and to continue to get medical students of high caliber is to subsidize a building program rather than to subsidize by scholarship at the Federal level and that the same end could be obtained if we assume that your standards now are high and that the students now are making good doctors. It is the incentive to go to school that we want to maintain and we want to continue to have high caliber people entering into the medical educational system.

Dr. WOLF. May I interject at this point with a question? Let's leave Dr. Donaghy out of it because I was delighted to have him at Vermont. He is professor of neurosurgery and a fine person. But just take any other fellow. Do you feel he should be required because of financial exigencies to go to Vermont? Maybe he wants to go to Cornell or Harvard. The way it is now with the University of Vermont subsidizing the Vermont boy, if he has a financial problem, has to go there. If he were subsidized at the Federal level he could go to Harvard or Cornell, or whatever he could feel he could best get his education.

Mr. KEITH. I would like to see the subsidy taking the form of decreasing the cost of medical education by helping to underwrite the construction program rather than providing a scholarship. Then the cost of obtaining a medical education would be lower at both Cornell and the University of Vermont, because of the significant role that could be played by the Federal Government in contributing toward a building program rather than toward a scholarship program.

I am concerned about the pressures that we get on behalf of families who want their boys to go to medical school. They expect their Congressman to be able to help the individual get in. I would like to see less of that and more of the lowering of the tuition so that the rank and file can go and not merely people of influence.

Dr. WOLF. My one reaction is that I think my colleagues would agree that the getting of funds for a building is different from getting funds for operation, so that even if we had help on construction it would not be reflected in lower tuition. In other words, one is capital funds and the other is operating funds. The two are different. You get them different ways.

Mr. KEITH. I appreciate that, but you nevertheless have to charge a great portion of your expense in many instances to the maintenance and construction of buildings, and in this area the Federal Government can do a good job and is doing something, I believe, under the National Defense Education Act in the way of equipping laboratories.

Dr. WOLF. I certainly don't know any school in this country that is putting tuition funds that they get from students into buildings. I mean heat, light, power, yes; but not into construction.

Mr. KEITH. They don't pay any of the capital costs?

Dr. WOLF. I am practically positive. I can't prove it now.

Mr. KEITH. Perhaps the alumni contributions could go toward scholarships if they were not used for capital contributions.

Dr. WOLF. Of course in Vermont we use the alumni contributions to match the Federal funds for the research construction. This is one

of our sources of capital funds. The alumni is a stronger source of capital funds than it is of operating funds in most instances.

Mr. KEITH. Perhaps the alumni funds could be diverted from capital funds to operating costs by a more substantial participation on the part of the Federal Government toward the subsidization of building.

Dr. WOLF. You recall from my testimony I said that the annual contribution by the alumni for operating funds to the University of Vermont College of Medicine never exceeded $5,000 a year, but when we went to the alumni with a pretty picture of a building and said how about it, then they came up with $700,000 in 3 years.

In other words, a building is more salable to the alumni than are operating costs. If you go and ask the alumni at a meeting, as I have, "Would you contribute to our operating costs?" they say, "What? Do you want to take another trip or something?" They think I want to use it for my own personal benefit or something.

Mr. KEITH. Thank you, Mr. Chairman.

The CHAIRMAN. Any further questions? Do you have a question, Mr. Kornegay?

Mr. KORNEGAY. I just want to ask one question, Mr. Chairman. Am I correct in assuming, Dr. Wolf, that you do not advocate the abandonment or demolition of buildings simply because of the age of them?

Dr. WOLF. Oh, no.

Mr. KORNEGAY. You referred to the fact so many times that this building was 100 years old.

Dr. WOLF. No; those buildings are being used now.

Mr. KORNEGAY. If this program were to go into effect do you think there would be any tendency on the part of the operators, the trustees of these institutions, to want to do away with some of the buildings simply because of the age of the buildings.

Dr. WOLF. Not because of the age, but because of the nature of their construction. For example, at the University of Vermont they have a lecture room that was built 50 years ago and when you lecture you stand like this looking up. The students are way up this way. It is this kind of thing. In your research laboratories there is much waste space in an old building because of the nature of construction, the weight-supporting pillars and that sort of thing, in such a way that limits your ability to get in big pieces of machinery and things like that.

Mr. KORNEGAY. I understand that. I want to compliment you on a very fine statement and for the use of your demonstrative evidence.

The CHAIRMAN. Thank you, Dr. Wolf, for your testimony. The committee will adjourn until 2 o'clock, at which time Dr. Robert Moore will be the witness.

Dr. WOLF. Thank you, Mr. Chairman.

(Whereupon, at 12:10 p.m., Thursday, January 25, 1962, the committee adjourned, to reconvene at 2 p.m., the same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

Dr. Robert A. Moore.

You might identify yourself for the record, Dr. Moore, and proceed.

80014—62——17

We want to extend to you a welcome. I recall I believe that we have had some correspondence with you in the past regarding this matter, and we are glad to have your testimony.

STATEMENT OF DR. ROBERT A. MOORE, PRESIDENT, DOWNSTATE MEDICAL CENTER OF THE STATE UNIVERSITY OF NEW YORK AND DEAN OF THE CENTER'S COLLEGE OF MEDICINE IN BROOKLYN, N.Y.

Dr. MOORE. Thank you, Mr. Chairman. My name is Dr. Robert A. Moore. My present position is president of the Downstate Medical Center and dean of the College of Medicine of the State University of New York in Brooklyn. I asked, Mr. Chairman, for the opportunity to appear before you in relation to H.R. 4999 very largely because of the opportunity I had to serve for a period of 4 years on the original Health Research Facilities Council. During that 4 years I made 129 site visits to various universities, medical colleges, hospitals, and research institutes, and among these there were 44 of the present 86 medical schools. As a result of that experience I have developed a deep interest in and great confidence in the program of the Health Research Facilities Act, and what I wish to say today refers only to that part of H.R. 4999. I would like to discuss chiefly the third major section of the bill, Mr. Chairman, and members of the committee, in relation to six topics.

First, the amount to be authorized.

Second, the sliding scale of matching.

Third, the geographic distribution.

Fourth, keeping all construction grants in this area under one act.

Fifth, the inclusion of libraries.

Sixth, the makeup of the National Advisory Council.

Under the first item I would like to suggest that there is a relation between the operating expenditures in a research institution and its need for capital funds. For example, in fiscal year 1957 the Congress appropriated $160 million for the research grants to non-Federal institutions. Of this, $30 million was for facilities. In other words, the facilities at that time were 19 percent of the appropriation.

In fiscal year 1961 the appropriation for research grants had increased to $480 million, but the facilities were still $30 million.

Now, unless the institutions had space that they were not using in 1957, I believe it is fair to say that they would need increased space with the increased amount of research which was being supported. In 1961 only 6 percent of the total appropriation was for facilities. If one followed along this line of reasoning, the appropriation for research grants is now $320 million higher than it was in 1957, and in general one needs for capital expenditures of space about the same sum as is needed for 1 year of operating expenditures within that space.

So that with $150 million paid out during the 5-year period we have developed a deficit according to this type of reasoning of $170 million in capital expenditures. This type of reasoning plus the actual visits to the various institutions during that 4-year period lead me to believe that the need is closer to $100 million a year for health research facilities than it is to the $50 million which is provided for in

this bill. I think that is a need which is legitimate and reasonable in terms of what I have seen around the country.

On the second item, the sliding scale of matching grants, the bill as now written provides that in educational grants there may be matching of 66⅔ percent of Federal money if it is a new medical or dental school. As I understand it, the matching principle of 50–50 in the health research facilities is unchanged.

May I suggest, sir, that you give consideration to the principle of a sliding scale of matching in both parts of the bill. Now, this could be done perhaps in many ways. One would be to write into the bill certain provisions concerning 60 percent, 70 percent, and so on. Another would be, as you have done on many other occasions in a similar situation, to instruct the Surgeon General and the National Advisory Council to give consideration to certain factors in awarding grants and in setting the percentage of Federal participation.

I believe that this second method is satisfactory and will work. I would suggest to you, sir, that there are certain factors, as I have toured the country and seen the institutions, that are worthy of your consideration. The first would be a factor similar to that in the Hill-Burton Act which makes provision for the population and the wealth of the State.

The second factor, which I believe is important, is consideration of how much that State, the people of that State, either publicly or privately, have invested already in educational facilities and in health educational and research facilities.

The third factor, which is already provided for, will be how will this appropriation increase the number of medical students and thereby the number of graduates, either in terms of expanding the classes of an existing school or of the establishment of entirely new schools.

In relation to my third point of geographic distribution, I would hope that the Congress would include in this bill, as they did in the original Health Research Facilities Act, directions to the Council and the Surgeon General to give a fair and equitable distribution throughout all parts of the country rather than to write in any required geographic distribution of the grants.

My fourth point is that I would hope that all construction grants would be, as they are now, under a single act rather than to have two or more acts which make it possible for one to secure construction assistance in different ways.

The matter of libraries, Mr. Chairman and gentlemen, is a most serious one. In the original applications in the first year of the health research facilities program we had applications from medical schools and dental schools to include libraries in the grants. The Council did a great deal of soul searching in this matter trying to interpret the intent of the Congress that there was urgent need to get on with more research facilities and to improve research facilities. The council decided for the moment that they would not include libraries. Since then there has been some question as to whether or not the Health Research Facilities Act as originally written does include libraries.

I would urge you, sir, in the development of this new act, that libraries be specifically included, either in the act or in the report to the Congress by the committee so that there will be a clear definition that research and teaching libraries are a part of the two parts of the act.

My final point concerns the Council.

As I understood the bill, H.R. 4999, as written, would continue the present National Advisory Council on Health Research Facilities and would establish a new council, a National Advisory Council on Teaching Facilities.

I think this would be confusing. I think it would be difficult. I can imagine that a single medical school or dental school or public health school would make two applications, one to the Research Facilities Council, the other to the Teaching Facilities Council, and that there might be some difference of opinion between these two councils as to whether a room here is teaching or a room here is research. I believe that it would be highly desirable if this could be brought before one National Advisory Council.

I appreciate the opportunity, Mr. Chairman, to appear before you. I shall be glad to discuss these points, or answer any questions which the members of the committee wish to pose that I can answer.

(The statement referred to follows:)

STATEMENT SUBMITTED BY DR. ROBERT A. MOORE

My name is Robert A. Moore. I am the president of the Downstate Medical Center of the State University of New York and dean of the center's College of Medicine in Brooklyn, N.Y. I appear before this committee today in no official capacity, but only as a citizen interested in the health professions and particularly interested in the present Health Research Facilities Act. This latter interest stems in large part from my service for 4 years on the original National Advisory Council on Health Research Facilities from 1956 to 1960. More recently the National Cancer Institute, on the National Advisory Council of which I served from 1954 to 1958, asked me to serve in a temporary advisory capacity on the evaluation of the requests for unmatched grants for construction of cancer research facilities. While on the Health Research Facilities Council I made 129 site visits, including visits to 44 medical schools in all parts of the Nation. For the National Cancer Council in the spring of 1961 I visited 10 institutions which made applications for unmatched grants.

I shall confine my remarks largely to the third major section of H.R. 4999, that is to health research facilities under six topics the relation of operational and capital costs, a sliding scale of Federal participation, geographic distribution, noncategoric grants, research libraries, and the makeup of the Council.

On the basis of the visits I have made to universities, hospitals, and research institutes in the past 6 years in particular, and of my observations and discussions with many people in medicine in general, I am convinced the present authorization of $50 million in Public Law 87-395 and the same amount for the future called for in H.R. 4999 is not adequate to meet the needs of the country. It is difficult for one who is not devoting full time to study of a problem to arrive at and substantiate a definite figure, but I believe the need is closer to $100 million a year than to $50 million. My reasons for coming to this conclusion are varied.

First, and perhaps foremost, is my belief concerning the interrelations of operational funds and capital funds in an institution devoted to health-related research. It is generally accepted that for every person on the payroll in medical research it takes about $7,000 a year to pay salaries, buy equipment and supplies, travel to meetings, etc. Further, it is generally accepted that on an average 200 square feet of net space should be provided for each person on the payroll including all general space such as animal quarters, storerooms, etc. If we assume a minimal figure of $35 a square foot of net research space as construction cost, this means the capital cost per person working is $7,000, or the same as the annual operating cost.

In fiscal year 1957, the first year of the Health Research Facilities Act, the total expenditures for extramural research, training, and construction were $160,700,000, of which $30 million, or 19 percent, were for construction. In fiscal year 1961, the comparable figures were $480,100,000, $30 million, and 6 percent.

In other words, in this 5-year period annual operating expenditures increased from roughly $130 to $450 million, or $320 million. During this same time $150 million was expended for space, or less than half as much as would be required under my assumptions that for each additional dollar of annual operating funds there should be a new dollar of capital funds. Thus, by this criterion we have an accumulated deficit of $170 million in construction just to keep up with the increase in operational funds of the last 5 years.

One might say this has been absorbed into excess space available in 1957. From my many visits I can assure you this is not true; rather projects and people have been crowded beyond the point at which optimal work can be done. Further, I have been told that some institutions have not applied for research funds because of lack of space and I can assure you that in my own school this is the case.

Let us approach this problem of interrelation of operating and capital funds in another way. In fiscal year 1957, Congress authorized $30 million for construction at a time when the operating costs were $130,700,000. Construction was 19 percent of the total. I believe there are few, if any, who would say this amount was excessive. Certainly the approved applications were every year in excess of it. Now in fiscal year 1961 there is the same $30 million for construction at a time when the operating costs are $450,100,000, or over a 3.4-fold increase. Yet the construction is the same at $30 million. If 19 percent were correct in fiscal year 1957 with an increasing budget, it is even more correct today. By this measure the construction expenditures in fiscal year 1961 should have been $91,200,000. (NOTE.—the figures on expenditures in the preceding paragraphs are from the Resource Analysis Section, Office of Program Planning, NIH, Aug. 9, 1961, as published on p. 57 of "Hearings on Community Health Facilities and Services" before the Subcommittee on Health of the Committee on Labor and Public Welfare, U.S. Senate, 87th Cong., on S. 1071, H.R. 4998, and S. 719, Aug. 3 and 4, 1961.)

May I be so bold, Mr. Chairman, as to suggest that the Congress, after a careful study and assessment of the backlog of need for research facilities, then establish a ratio between increases in operating budget and capital funds for facilities so this problem may be dealt with rationally and on a continuing basis. If my reasoning is correct, this should for some years be dollar for dollar for each increase plus some significant part of the accumulated needs.

Other witnesses have or will, I am sure, present the facts derived from surveys of estimated needs by the institutions, and I shall not attempt to repeat them. However, it is my understanding that these add up to about $100 million a year for 5 years.

There is, however, Mr. Chairman, one special factor of which I would like to speak. It might best be put as an answer to the question, Why do you think there is a continuing large demand when in the last 5 years many of the research institutions have been awarded a grant and have built new facilities?

It is true that most of the more active institutions have received a grant, but in many instances the grant was less than was applied for. Decreases were made in most cases, not because the Council did not believe the institution could use the requested space in the future, but because it was clear to the Council the first year that some fair and equitable limitation on construction for the future would be necessary or grants could be made to only a few institutions. Accordingly approved grants were based on estimated needs up to only 2 year after completion.

If medical research continues to grow in volume, and there is every indication it will, then many of the institutions will be back in a year or two to say—we are grateful for the grant in 1957 and as you predicted the space is now all used and we need more.

My point is that just because university A or hospital B got a grant for its current and 2-year projected needs between 1957 and 1961, this does not rule out a new application which is entirely reasonable and legitimate from the same institution in 1962-67. In fact, I would be surprised if many of the institutions did not apply again soon.

As an example of this situation let me cite the case of my own institution—the Downstate Medical Center of the State University of New York. In 1958 the State of New York authorized new construction at the Downstate Center of a 350-bed hospital, an outpatient department, and a clinical research building. For the latter, we applied for and were awarded a grant under the Health Research Facilities Act. We will start construction in the next few months.

When it opens in 1965 every square foot will be occupied by present and projected personnel with no increase in additional research personnel. I am certain there will seen be pressures for additional construction.

As a second point, Mr .Chairman, I wish to present some thoughts concerning a sliding scale for matching of the Federal grant with local funds. The present Health Research Facilities Act provides for only one level of matching—50–50. On the basis of my many site visits I am not convinced this is fair and in keeping with the basic philosophy of the Congress on matching grants in general.

First, let me make it crystal clear that I do not believe the Federal Government should pay all the costs. We have developed a fine cooperative program of medical research in the country based on a partnership of Federal and local funds, either private or governmental. Thus, I believe there should be a minimum and a maximum of Federal participation and I suggest 50 and 75 percent respectively.

There are two ways in which the Congress could provide for the sliding scale: first, write into the law a formula; or second, instruct the National Advisory Council on Health Research Facilities to give consideration in application of the sliding scale to certain specified factors named in the law. I believe the latter is the preferred method and I believe it is workable on the basis of experience. The Health Research Facilities Act instructed the Council to:

"In acting upon applications for grants, the Council and the Surgeon General shall take into consideration the relative effectiveness of the proposed facilities—in promoting an equitable geographical distribution of such research * * *." I believe everyone will agree the Council has done this admirably.

Among the factors which I believe might be used in applying the sliding scale are relative wealth of the State in which the institution is located, relative amount the institution has already invested in health-related facilities from other than Federal funds, rate of recent past and projected future growth in research and research training and training professional health personnel, and whether or not it is a completely new institution in contrast with expansion of an old.

Third, along the same line I would urge the Congress to leave actual geographic distribution to the Council and Surgeon General as in the present act, rather than to write in definitive figures for the minimum and maximum to each region.

Fourth, I would strongly urge that the present policy of the Congress, effective after July 1, 1962, of placing all health-research facilities grants on a noncategoric basis under one act and one Council be continued. I have no practical disagreement with appropriation and allocation of research grants on a categoric basis for 1 to 5 years as they are related to a specific problem. But, in the case of buildings, which last for 20 to 50 years, one simply cannot categorize their use for more than a short time. This year because of personnel on duty there may be a large program in university A on cancer. Some of this personnel may move next year to another university—university B—which has a building for research in heart disease. If there was strict interpretation of the law, we would in a few years have great embarrassment in universities, some would be crowded and some have empty space.

It is true there are a few intrauniversity and independent research institutes devoted to one category of research which are as permanent as universities. However, they can and have qualified under the current act just as well as under a separate act for that category.

Fifth, I urge the Congress to include in the amended Health Research Facilities Act, specific authorization to make grants for biomedical research libraries or for the research part of a general biomedical library. During the first year of the present act, several medical schools applied for grants which included a part of the cost of a new medical library. Each calculated the research part of the library in a different way, but in each instance the request was fairly large in dollars. After lengthy study of the problem and of the applications, the Council decided not to recommend any grants for library space because, first, the relative dollars invested there would limit the dollars available for actual research and thus defeat the intent of the Congress "to expand the health-related research of the Nation," and second, the Council was not certain how to determine the research part of a library within the intent of the Congress in the Health Research Facilities Act. A few years later the Council decided it cou'd develop a satisfactory formula for a research library, but by then there was question in the minds of many that Congress intended to include research libraries under this act, so no grants have been made.

I need not tell a Member of Congress with the reference and research resources of the Library of Congress that modern research is not possible unless its practitioners have an adequate library available. The recent growth in research has correspondingly increased research publications. Most medical school libraries were built many years ago, and additional space is now or soon will be needed.

Sixth and finally, I wish to comment on the proposal in H.R. 4999 to establish a National Advisory Council on Education for Health Professions. I agree completely with the principle of the National Advisory Council, but I believe, Mr. Chairman, it would be a serious mistake to have one Council for Educational Facilities and another Council for Research Facilities.

With two councils each school of the health professions would have to make two applications if it wished to construct a combined educational and research building. I can well imagine some day that the Educational Council would rule a room research and the Research Council rule the same room educational, in spite of the fact that both councils agree such a room is necessary to the institution as a whole. The Health Research Facilities Council has had a difficult time deciding what is research and what is education. Let us not magnify and duplicate and confuse the problem by asking another council to decide what is education and what is research. Certainly a single council with proper membership could solve these difficulties with fairness to all.

The CHAIRMAN. Thank you very much, Dr. Moore.

I want to compliment you on your statement, as you have devoted it to this particular subject and developed some ideas and thoughts and made suggestions here that have not heretofore been given the attention which you have given to it. Are there any questions by any members?

Mr. YOUNGER. Yes, Mr. Chairman.

Dr. Moore, how would you apply the Hill-Burton formula, which is designed for hospitals, and there are hospitals in every State, as against medical schools where medical schools exist only in 24 States.

Dr. MOORE. I was thinking, sir, only in terms of applying the Hill-Burton formula as I understand it, the principle of it, that a State receives increasing matching funds, Federal participation, in relation to the wealth of that State and the population of that State.

Mr. YOUNGER. In other words, you would apply the Hill-Burton formula to any State which did not get a grant?

Dr. MOORE. Yes, sir.

Mr. YOUNGER. That is all.

The CHAIRMAN. Is there anything further?

Thank you very much, Doctor. We appreciate your presentation to the committee.

Dr. MOORE. Thank you, sir.

The CHAIRMAN. Dr. Philip Bonnet?

Dr. Bonnet, we are glad to have your presentation here today. I believe you are the administrator of the Massachusetts Memorial Hospital, a member of the Board of Trustees of the American Hospital Association.

STATEMENT OF DR. PHILIP D. BONNET, ADMINISTRATOR, MASSACHUSETTS MEMORIAL HOSPITAL; MEMBER OF THE BOARD OF TRUSTEES OF THE AMERICAN HOSPITAL ASSOCIATION; ACCOMPANIED BY KENNETH WILLIAMSON, ASSOCIATE DIRECTOR OF THE AMERICAN HOSPITAL ASSOCIATION

Dr. BONNET. Yes, sir. I am appearing on behalf of the American Hospital Association. I have with me Mr. Kenneth Williamson, associate director of the association.

The CHAIRMAN. We are glad to have you, Mr. Williamson.

Mr. WILLIAMSON. Thank you.

Dr. BONNET. I have here a full prepared statement which I would like to request be entered into the record. In order to save the committee's time I would like to make a few brief remarks rather than reading the full statement.

The CHAIRMAN. Very well, Doctor, your full statement will be included in the record.

Dr. BONNET. Thank you, sir.

(The statement referred to follows:)

STATEMENT OF DR. PHILIP D. BONNET IN BEHALF OF THE AMERICAN HOSPITAL ASSOCIATION

Mr. Chairman, I am Dr. Philip D. Bonnet, of Boston, Mass. I am the administrator of the Massachusetts Memorial Hospital and a member of the board of trustees of the American Hospital Association. I appear today on behalf of the association. Accompanying me is Mr. Kenneth Williamson, associate director of the American Hospital Association.

The American Hospital Association is a voluntary, nonprofit membership organization with over 7,000 members, including the great majority of all types of hospitals. The primary interest of the association—and the reason for its organization—is to promote the public welfare through the development of better hospital care for all the people. Our member hospitals provide over 90 percent of the Nation's general hospital beds. Last year, more than 23 million people were admitted as patients into our hospitals—about one in eight of the country's population—and each year, more and more people seek care in a hospital.

In order to improve knowledge of disease and to meet the growing need for more and better doctors in our hospitals, the American Hospital Association has for a number of years supported proposals for Federal grants to assist in the construction not only of health care and research facilities but also of teaching facilities for the Nation's medical schools. This support has been set forth in statements presented to the Congress urging grants for medical school facilities to assist in providing adequate numbers of well-trained physicians to serve the American people.

The hospitals of the country are deeply concerned with both the quantity and quality of medical education. Many of them are a part of, or are affiliated with, medical schools. Over 800 hospitals offer internships and nearly 1,300 hospitals offer medical and surgical residency training programs. A good many of them are also engaged in programs of continuing education for medical practitioners.

Great public attention is being concentrated upon medical research. This research is conducted in large part within hospitals, and hospitals are primarily responsible for translating the benefits of such research into methods and procedures for patient care. Both hospitals and the medical schools must have the necessary facilities and equipment if research is to be meaningful to the people and adapted to meet their needs.

It is obvious that the provision of adequate numbers of good doctors is dependent upon the quality and availability of medical education in this country. At the present time, many medical schools and their teaching hospitals are housed in poor and inadequate buildings. The older schools have a major need for renovation and modernization. Some may even need replacement. A study by the Association of American Medical Colleges indicated that if the existing medical schools were able to carry out necessary new construction, as well as to renovate and modernize their present facilities, they would be able to increase their enrollment by more than a thousand students

There have been a number of studies documenting the availability of physicians and projecting the extent to which their future number may meet the needs of the country. In 1957, the report "Medical School Inquiry," prepared by the staff of this committee, made an important contribution to the information on this subject. The report of the Surgeon General's Consultant Group on Medical Education, entitled "Physicians for a Growing America," published in October 1959, is an excellent statement of the facts relating to the availability of phy-

sicians, the need for physicians, and the problems facing the medical schools. I shall not attempt to repeat the evidence set forth in these reports. We agree with the conclusion of the 1959 report, and with the more recent report on "Federal Support of Medical Research," developed for the Senate Appropriations Subcommittee, that in view of the expanding population and the complexity of medicine, the United States has an increasing need for medical services and faces a growing shortage of physicians.

The pattern of medical education and practice in recent years has changed with the growth in hospital residency and internship programs. Almost every physician now graduating from a medical school serves an internship. Many also accept residencies or fellowships. Prior to World War II, hospitals offered a total of 13,000 approved internships and residencies. At the present time, there are more than 30,000 internships and residencies available in hospitals. These figures show a change in the preparation of physicians and a growth of specialization. The physician preparing for a speciality is required to take a residency program of from 3 to 5 years, or more, before he is eligible to take his specialty board examinations.

TRENDS TOWARD DOCTOR NEED

We who administer the Nation's hospitals are able to observe certain influences and trends which indicate the increasing need for physicians. For example:

At present our hospitals are unable to fill a substantial percentage of the available internships and residencies. It is estimated that about one-fourth of these positions are vacant. This shortage of interns and residents means that attending physicians must perform many of the professional duties for their patients which are ordinarily handled by interns and residents. Thus, the practicing physician can treat fewer patients and the need for doctors grows as a result. Also, the number of interns and residents in our hospitals who are graduates of foreign medical schools has been reduced. Higher standards of admission applicable to foreign medical graduates—which are desirable and are supported by this association—have made for more vacancies on hospital house staffs and additional in-hospital activities for the attending physicians.

Prepaid health care is covering an increasing percentage of our population. Government also is increasing its financing of health services for various segments of the population. Therefore, more people are demanding health care and this cannot but require additional physicians.

More attention and funds are being directed toward treatment of the mentally ill. The needs of the mentally ill cannot be met without more doctors.

The number of aged persons in our country is growing. Experience shows that older persons have a greater need for health care than the younger group; consequently, the number of doctors must grow along with the aged segment of our population.

We are confronted with the problem of building more institutions to care for the aged and chronically ill and to raise the standards of the existing ones. Medical care and medical supervision are essential to improve the quality of care in nursing homes and chronic illness institutions. This will require the availability of more physicians.

FEDERAL IMPACT

For a number of reasons the problems of medical education are Federal issues. The doctors who serve in all the uniformed services and who staff Federal hospitals receive their entire medical education and training, prior to internship, in non-Federal schools. Consequently, the medical schools and the teaching hospitals of the country are investing heavily of their much needed funds in training physicians for Federal service.

There are doctors in every State, but no State is served exclusively by physicians educated in that State. Training these doctors thus becomes a regional and national enterprise. Teaching hospitals and medical schools prepare physicians for distant geographical areas. Under these circumstances it should be recognized that theirs is no mere local or State function. It is even international since they assist many foreign lands by training physicians under the exchange visitors program.

The security and defense of our Nation requires adequate medical personnel. Their training is imperative if we are to be strong and healthy in the face of

threats to our security. The health of our defense personnel and of the civilian population must be preserved as a national asset. This requires an adequate number of doctors.

I have outlined these points to emphasize the increased role of the hospital in the education of physicians, its Federal implications, and to demonstrate that continuation of high quality physician training will require expanded teaching facilities in hospitals as well as in medical schools.

In our view, H.R. 4999 will provide financial assistance for the needed improvement and expansion of our medical school facilities, a matter of utmost importance to the health and welfare of the Nation. We urge Congress to provide this assistance.

SUGGESTED AMENDMENT

There is a section of part B, dealing with grants for the construction of teaching facilities, which we believe should be modified in two respects.

First, under section 721(c)(3)(A), the Surgeon General's approval of a construction grant is conditioned upon a showing that the construction will expand the "training capacity" of an existing school of medicine. Since hospitals provide a large measure of the training of medical students, one would expect that the section is designed to encourage new or expanded construction of those hospitals which provide training facilities for medical schools. Where a medical school has its own hospital, expansion of the "training capacity" of that school would certainly cover construction for its hospital member. But it is not clear whether the bill would apply to the situation where the medical school does not have its own hospital. It is obvious that where a hospital is used for the teaching purposes of a medical school, it provides essential "training capacity" for that school whether it is a part of that school or independent of it. We urge, therefore, that the bill be amended to make clear an intention to include all hospitals affiliated with a medical school.

Second, under the present terms of the bill, any application must be initiated directly by a medical school, even though it may be for construction of hospital teaching facilities. We believe that the bill should be amended to provide that an application may be initiated by a hospital not owned and operated by a medical school, but affiliated with it, and that such an application may be accepted if it has the approval of the dean of the medical school.

SCHOLARSHIP GRANTS

Part C of the bill sets up a new program of scholarship grants to schools of medicine, the grants to be used to provide scholarships for students and to meet part of the instructional costs of these students. Medical undergraduates, graduates, and interns as well as residents, all receive considerable training and instruction in our hospitals. We know this is very expensive education. The cost to the hospital for such medical education is never fully recovered from the student or the affiliated medical college. With this in mind, the board of trustees of the American Hospital Association has resolved:

"* * * that medical and dental schools must receive adequate financing and that a means should be found for insuring that desirable students in these professions who are in need of financial assistance for their education are so assisted.

"Therefore, the American Hospital Association supports programs providing Federal scholarships to students in medicine and dentistry, and Federal grants to medical and dental schools and to hospitals engaged in educational programs * * *."

We support part C of H.R. 4999 as a significant move toward resolving the problems stemming from the high cost of medical and dental education.

RESEARCH FACILITIES

The bill proposes, in addition, to extend and strengthen facilities for research in the health field. We have always supported programs for Federal assistance in the construction of research facilities. We know that funds available for this purpose in the past year have not been sufficient to meet demands. For this reason, the proposal to increase the authorization for appropriation of grant funds from $30 million to $50 million has our complete support.

SCHOOLS OF PUBLIC HEALTH

We recognize that H.R. 4999 refers to public health educational facilities as well as to medical educational facilities. Since this association has adopted no policy recommendations relating to the needs of schools of public health—schools which have a much less direct relationship to hospitals than do medical schools—I have not included any comments on aid to this kind of school. We have no reason, though, to question their inclusion in the legislation.

In conclusion, I wish to thank the committee for affording us an opportunity to present our views on this legislation.

Dr. BONNET. Hospitals are deeply involved with medical education both directly and indirectly. Two out of the 4 years of medical schools education are conducted largely within the walls of hospitals. These are the clinical years. After graduation from medical schools the young physicians spend varying number of years in graduate training programs in the hospitals in order to become specialists. In addition, hospitals are dependent on the supply of doctors in order to maintain an adequate staff so that the hospitals may fulfill their objectives in serving the public.

We believe there is a doctor shortage, and we believe the doctor shortage will grow steadily worse unless the facilities and the opportunities for medical education are expanded to keep up with the population growth, new knowledge in medicine, and the new needs which are continuously uncovered, to say nothing of meeting some of our international obligations to help underprivileged countries with their medical needs.

For many years the American Hospital Association has supported legislation of this type, and we are still in favor of this legislation and this particular bill in all of its parts. We believe construction of medical facilities, both replacement, renovation, and expansion is necessary for medical schools, dental schools, and schools of public health.

In addition, we believe that scholarship or loan aid is necessary in order to maintain sufficient qualified applicants for entering medicine, and although this is of probably the greatest importance in increasing the number of doctors in the future, we believe that it is also important to alleviate much of the economic hardship that now falls to the lot of medical students today.

We have one amendment to suggest. Because of the fact that in referring to teaching hospital facilities in the bill as drawn, it requires that these teaching hospital facilities be part of, as we understand it, the corporate structure of the medical school and university. Many of the principal teaching hospitals are not part of the corporate structure of the medical school and university. They are private hospitals, separately incorporated, but closely affiliated with the medical school. Therefore, we request that the legislation recognize this fact and make such construction that is to be made available for teaching hospital facilities equally available to those hospitals which are affiliated with medical schools, but not part of the corporate structure of them.

We suggest that the bill be amended to provide that an application may be initiated by a hospital not owned and operated by a medical school, but affiliated with it, and such application may be accepted if it has the approval of the dean of the medical school.

I am deeply grateful for the opportunity to appear before the committee. I would be happy to try to answer any questions.

The CHAIRMAN. Thank you, Doctor. I have looked over your statement very hurriedly. Personally I am glad to have the information which you have given the committee on behalf of your association. I particularly want to refer to one statement which is made here on page 4, "Trends Toward Doctor Need":

> At present our hospitals are unable to fill a substantial percentage of the available internships and residencies. It is estimated that about one-fourth of these positions are vacant.

That means that the hospital are not able to obtain the desired interns or residents that they are needing.

Dr. BONNET. That is correct.

The CHAIRMAN. Is it not a requirement for all doctors to spend some time now in internship and residencies prior to their practice?

Dr. BONNET. I believe there is a requirement in about 24 States that there be an internship year prior to a licensure by the State.

In the other States where there is not such a legal requirement it is nevertheless customary and I think almost universal that the American graduate spend an additional year in hospitals.

The CHAIRMAN. You would not suggest that that be made a requirement in the other States?

Dr. BONNET. No, sir; I would not suggest it.

The CHAIRMAN. You would like to encourage the States to adopt that principle?

Dr. BONNET. I think it is probably a wise provision.

The CHAIRMAN. Are there any questions by members of the committee?

Mr. DINGELL. Mr. Chairman, I know how pressed the committee is for time, but I wonder if the witness would elucidate on this thing. I have tried to read your statement in connection with the bill, particularly the language in your prepared statement at the bottom of the fourth-to-the-last page, the top of your third-to-the-last page going from the back where you refer to 721(c)(3)(A). As I understand it, you are trying to include into the purposes of the grant section institutions which are essentially hospitals, teaching hospitals; is that correct?

Dr. BONNET. Yes, sir.

Mr. DINGELL. Are these teaching hospitals covered by Hill-Burton grants?

Dr. BONNET. They are technically eligible for Hill-Burton grants, but because of the great emphasis in the Hill-Burton program of establishing hospitals in areas which did not previously have hospitals, the amount of Hill-Burton funds generally that has gone to the teaching hospitals, and the university hospitals, has been severely limited. The Hill-Burton program does not provide for the extra features teaching hospitals require, such as classrooms, conference rooms, lecture halls, student laboratories, and the like. These are educational-type facilities and are not clearly provided for under the Hill-Burton program.

Mr. DINGELL. Doctor, I assume you would be able to draft an amendment to carry out the purposes of this? I know I would like to look at it.

Dr. BONNET. I am not sure that I would be competent to draft legislation, sir, but I could provide the information to whoever was competent, I believe.

Mr. DINGELL. I would like to see it, Doctor.

Dr. BONNET. Thank you.

Mr. DINGELL. Thank you, Mr. Chairman.

The CHAIRMAN. Are there any further questions?

Mr. COLLIER. Yes, I have one question.

Doctor, as I understand it, there is some very limited compensation which interns and resident doctors receive when assigned to training in the hospital. Is there a wide variation in the compensation across the country?

Dr. BONNET. There is probably the variation of a magnitude of 100 percent between the bottom and the top across the country. It is a matter of opinion as to whether this is a wide variation.

Mr. COLLIER. Does that account for the fact that notwithstanding the hospitals that are actually short of interns there are others that have waiting lists for interns to get into?

Dr. BONNET. No, sir; there are not hospitals with waiting lists. There are hospitals, just as there are medical schools, that have more applicants than others, but the entire graduating class of students are distributed among the hospitals which offer internships on the basis of the student preferences by a national program known as the intern matching plan. This is a way of eliminating a great deal of competition among institutions for the limited supply that is available. There are no waiting lists. Everyone who wants an internship today gets one, and in a good hospital.

The CHAIRMAN. Mr. Thomson.

Mr. THOMSON. Were some of the vacancies in internships caused by callup of reservists in recent months?

Dr. BONNET. In recent months there have been a few vacancies so caused. We were not referring to these temporary and, we hope, emergency vacancies. We were talking about the general and chronic problem of an inadequate number of interns and residents to fill all of the available opportunities.

Mr. THOMSON. That is all.

The CHAIRMAN. Doctor, thank you very much.

Mr. Williamson, we are glad to have had you, too.

Dr. BONNET. Thank you, sir.

The CHAIRMAN. Will this conclude the presentation of the association?

Dr. BONNET. Yes, sir; it will.

The CHAIRMAN. And you speak for the entire group?

Dr. BONNET. Yes, sir; except for providing Mr. Dingell the information which he requested.

The CHAIRMAN. Thank you very much. We are glad to have your presentation.

Dr. R. McFarlane Tilley, dean and director of hospitals and clinics, College of Osteopathy and Surgery, Kirtsville, Mo.

I believe you are representing the American Association of Osteopathic Colleges.

STATEMENT OF DR. R. McFARLANE TILLEY, DEAN AND DIRECTOR OF HOSPITALS AND CLINICS, KIRKSVILLE COLLEGE OF OSTEOPATHY & SURGERY, KIRKSVILLE, MO.; ACCOMPANIED BY LAWRENCE L. GOURLEY, LEGAL COUNSEL, AMERICAN OSTEOPATHIC ASSOCIATION

Dr. TILLEY. Mr. Chairman, members of the committee, my name is Dr. R. McFarlane Tilley. I am dean, and director of hospitals and clinics, of the Kirksville College of Osteopathy & Surgery at Kirksville, Mo.

The American Osteopathic Association and the American Association of Osteopathic Colleges are dedicated to maintain and improve high standards of medical education in osteopathic colleges. Manifestly, they are interested in the pending bill, H.R. 4999, which proposes to increase the opportunities for training of physicians. On their behalf, may I express our appreciation for the opportunity of bringing to you our views on this most important bill.

The bill amends the Public Health Service Act to include a 10-year program of matching construction grants for new schools or for major expansion of existing schools of medicine, dentistry, osteopathy, and public health, and for renovation and replacement of existing teaching facilities of those schools. The program also authorizes Federal grants to accredited schools of medicine, osteopathy or dentistry to be used by the schools to make scholarship awards to talented students on the basis of need for financial assistance in pursuing a course of study at the school, and in order to aid the schools to meet part of the instructional costs of these students, each school would receive additional grants.

In 1956–57 we were privileged to cooperate with your professional staff in connection with the medical school inquiry staff report to your committee containing background information relating to schools of medicine, dentistry, osteopathy, and public health on the subject of Federal aid for construction of teaching facilities. We shall try to update some of the material contained in that most invaluable report.

During the ensuing 5 years, the six colleges of osteopathy and surgery, all being accredited private nonprofit tax-exempt institutions, graduated 2,280 physicians of the osteopathic school of medicine. These derived from freshman classes totaling 2,551, an average of 20 below overall freshman capacity annually (see Guidance Leaflet 23, U.S. Office of Education), and represent an attrition of 10.6 percent.

If Federal funds are made available on a matching basis for construction of educational facilities as proposed in this bill, it has been estimated that present plans of the colleges for expansion of facilities could increase the freshman capacity to 630, or nearly 20 perecnt.

All the colleges require a minimum of 3 years of preprofessional study in an approved college or university. Seventy percent of the entering freshmen hold baccalaureate or advanced degrees. Some others obtain B.A. or B.S. degrees after completing the first year at osteopathic college under combined degree agreements with various undergraduate colleges and universities.

First-year students in 1961 received their required preprofessional training in 241 undergraduate colleges in 40 States. Geographic distribution of the entire osteopathic predoctorate enrollment 1961–62

shows students derived from 47 States and the District of Columbia. Freshmen at my own college at Kirksville were trained at 71 colleges in 25 States.

The standard curriculum of an osteopathic college requires at least 5,000 hours of professional instruction distributed over 4 college years. Upon graduation, the degree of doctor of osteopathy (D.O.) is conferred. The graduate then begins an internship of 12 to 24 months in a hospital approved for intern training by the American Osteopathic Association. After internship, an increasing number of graduates enter on 3-year terms of residency training in approved residency training hospitals, followed by 2 years of specialty practice preparatory to examination for certification by specialty boards in such specialties as internal medicine, surgery, radiology, obstetrics, gynecology, pediatrics, and pathology.

Doctors of osteopathy are engaged in the legalized practice of their profession in each of the 50 States and the District of Columbia. In 38 States and the District of Columbia, most osteopathic physicians practice under unlimited licenses. The licensure laws in the remaining States have not kept pace with the advancement in the training and practice of osteopathic physicians and surgeons.

I might add that 75 percent of D.O.'s are in general or family practice and 26 percent practice in communities of less than 5,000 population.

In the fall of 1958 the Surgeon General of the Public Health Service invited a group of 22 national leaders in medicine, education, and public affairs to serve as a consultant group to the Public Health Service on medical education, and specifically to consider the question: "How shall the Nation be supplied with adequate numbers of well-qualified physicians?"

Dr. Morris Thompson, president of the Kirksville College of Osteopathy and Surgery, had the honor of serving as a member of the group. In September 1959, the Surgeon General's Consultant Group on Medical Education made its report, under the caption "Physicians for a Growing America." The report points out that in the United States in 1959 there were—

> some 235,000 doctors of medicine and 14,000 doctors of osteopathy for a population of 177 million people, or 141 physicians per 100,000.

The report then states:

> The consultant group considers the maintenance of the present ratio of physicians to population a minimum essential to protect the health of the people of the United States. To achieve this, the number of physicians graduated annually by schools of medicine and osteopathy must be increased from the present 7,400 a year to some 11,000 by 1975—an increase of 3,600 graduates.

According to the consultant group, the Nation's physician supply will continue to lag behind the needs created by increasing population unless the Federal Government makes an emergency financial contribution on a matching basis toward the construction of medical school facilities.

A survey in 1958 indicated that the osteopathic colleges spent $6.8 million for basic operations, only $1.4 million, or 21 percent, of which came from tuition and fees. Gifts and grants and deficit financing supplied the rest.

One of the colleges, the Philadelphia College of Osteopathy, since 1955 has received over $100,000 annually from the State appropriations for instructional grants to medical institutions in the State. Pennsylvania is also providing $1 million for provision of a new teaching hospital for the college.

The profession recognizes a continuing responsibility to the osteopathic colleges. During the past 16 years doctors of osteopathy have contributed some $9 million to osteopathic education and research. Twenty-three State societies covering 80 percent of the profession annually contribute directly through a support-through-dues program. In 1961 the profession contributed over $1 million.

Last year the alumni of the Kirksville College contributed $297,660. It is noteworthy that this college has alumni practicing in each of the 50 States and the District of Columbia.

Every effort is being made on the part of each of the colleges and the American Osteopathic Association to obtain funds from private sources for proper maintenance of these institutions for the training of physicians (D.O.).

In recommending a 10-year program of Federal grants on a matching basis for the construction of medical teaching facilities, the Surgeon General's Consultant Group on Medical Education pointed out that only with such Federal stimulus will adequate funds become available for needed construction.

There is abundant evidence of a catalytic effect of the availability of Federal matching funds. The Kirksville College of Osteopathy and Surgery was enabled to match Hill-Burton funds to build a new teaching hospital. The availability of Hill-Burton funds aided the Kansas City College of Osteopathy and Surgery in obtaining matching funds for construction of a diagnostic and treatment facility, and assisted the College of Osteopathic Physicians and Surgeons at Los Angeles in obtaining matching funds for construction of a rehabilitation facility. More recently, the college at Los Angeles received an award under the Health Research Facilities Act for construction of a research facility, and the Chicago College of Osteopathy has received an award under that act for procurement of research equipment.

The osteopathic colleges cannot adequately meet their needs for construction of teaching facilities without additional assistance. Much of our teaching activities are in overcrowded and obsolescent buildings.

We endorse the report of the Surgeon General's Consultant Group on Medical Education calling for Federal assistance for construction of teaching facilities, and we favor enactment of H.R. 4999 for the purpose.

According to the Surgeon General's Consultant Group, "there must be some 12,000 admissions to schools of medicine and osteopathy in 1971" if the "minimum goal of 11,000 physician-graduates a year by 1975" is to be met. Two major programs were recommended:

1. Adequate expansion of teaching facilities.
2. Increase in funds available to make it possible to finance a medical education.

The average cost of tuition and fees, room and board, and other school and living expenses to the student for 4 years of osteopathic

college is about $10,000. The student has already spent from $5,500 to $7,000 on preprofessional college training.

The American Osteopathic Association student loan program makes low-interest loans of $750 or less to junior and senior students for repayment after graduation. More than $350,000 in such loans are currently outstanding. The Auxiliary to the American Osteopathic Association offers freshmen students 15 $1,500 scholarships each year. Some grants and loans are furnished by State and local societies. Pharmaceutical houses and other donors are offering increasing amounts for student assistance. The National Defense Education Act program is also helpful. But the demand for assistance far exceeds the supply.

Federal scholarship aid is needed to increase the pool of available superior students. Consider the fact that at the Kirksville College alone we have lost 22 members from our second year class. They started with 100 students. They are down to 78 at the present time. Most of the loss was due to financial reasons per se. This could have been avoided with adequate scholarship aid. More important and more complex, however, is the fact that a number of these people were "borderline acceptancies." The pool from which we are selecting has fewer and fewer strong young students. Better students who might otherwise be interested but who have limited funds are going into those fields where National Defense Education Act fellowships are available and their financial problems are taken care of right through to the Ph. D. (see "Physicians for a Growing America").

If Federal funds are made available for student scholarships as proposed in H.R. 4999, more students of superior quality will be attracted to the schools, and the rate of attrition and last-minute cancellations, and dropouts, most of which are due to financial reasons, should be sharply reduced.

The cost of education payments to schools which receive the scholarship grants, as proposed under H.R. 4999, will greatly assist efforts in our colleges to stabilize operating budgets which is essential to improvement and maintenance of high quality instruction. At the Kirksville College last year faculty salaries moved from $468,272 in the previous year to $520,832 in the year completed June 30, 1961. Further improvement in compensation is overdue. A faculty retirement program is long overdue. Competition for superior talent must be met.

We also support section 3 of H.R. 4999 which proposes extension and expansion of the health research facilities program. More of our colleges would have been able to participate in the program to date if matching funds of the Government could have been made available for facilities used both for teaching and for research.

We wish to commend this committee for its leadership in the enactment of the institutional research grants program, Public Law 86–798. All our colleges are participating in the program. The research potential of our colleges has been advanced materially by the research grants received from the National Institutes of Health. In that connection, I should like to quote from the 1961 report of the president

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of the Kirksville College of Osteopathy and Surgery, Dr. Morris Thompson, as follows:

I should like to acknowledge the wise and helpful counsel of officials and advisers to the National Institutes of Health. While particular reference is properly made here to the development of the Vascular-Neurologic Clinical Research Center, still every year the college benefits from the help of these capable and dedicated persons.

Mr. Chairman and members of the committee, we are indeed grateful for this opportunity to make our position known on this legislation.

The CHAIRMAN. Thank you very much, Doctor, for your statement. Are there any questions?

Mr. YOUNGER. I have just one question. You mentioned the internship in the hospitals of the graduates. Do you find any objection on the part of the medical association to their working in the hospitals where your graduates are working?

Dr. TILLEY. Mr. Younger, all our graduates take their internships in osteopathic hospitals.

Mr. YOUNGER. Not in the general hospitals?

Dr. TILLEY. In general hospitals, staffed by osteopathic physicians and surgeons.

Mr. YOUNGER. Thank you, that is all.

Dr. TILLEY. There are more internships available than there are osteopathic graduates to fill them.

The CHAIRMAN. Mr. Dingell?

Mr. DINGELL. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Collier?

Mr. COLLIER. I have just one comment, Doctor.

I think it is noteworthy that your alumni contributed $297 million, over $297 million to the college——

Dr. TILLEY. No, $297,000.

Mr. COLLIER. The rate establishes, contrary to the belief in some quarters, that even doctors know it is as blessed to give as it is to receive.

Dr. TILLEY. Thank you, sir. We work very hard at this matter.

Mr. KEITH. With reference to Mr. Collier's comment, it is not quite as blessed as you thought it was. It is $297,000 instead of $297 million.

Mr. COLLIER. Well, the spirit is there.

The CHAIRMAN. Mr. Thomson, can you contribute to this subject matter?

Mr. THOMSON. No, thank you, Mr. Chairman.

The CHAIRMAN. Doctor, I observed your statement on the first page in reference to graduating 2,280 physicians from osteopathic schools of medicine, referring to the ensuing 5 years. These derived from freshman classes total 2,551.

At the outset, to me it is a remarkable record that you had freshman classes during those 5 years totaling 2,551 out of which you graduated 2,280 osteopathic physicians. I wonder if you can elaborate on that. Is not that figure of those who enter and those who graduate much higher than the results we get from the medical schools?

Dr. TILLEY. I do not think it is very different, Mr. Chairman. Our attrition rate runs around 10 percent average through the years. Our total freshman capacity in our colleges is about 530.

The CHAIRMAN. Now, the next statement says that freshman classes are on an average of 20 below freshman capacity. You mean you have

capacity to accommodate an average of 20 more students than you have applicants?

Dr. TILLEY. Actually, sir, nowadays all our classes are filled, but we lose students every year. We believe we would not lose so many students if the quality of the entering student was improved. There would be less attrition. Once we drop a student we can't put a man in. The place in the class is lost forever. This is a very serious matter with us.

The CHAIRMAN. Yes, I can very well understand it being a very serious matter, but you have facilities to accommodate about all who apply.

Dr. TILLEY. That is true, but we lose them.

The CHAIRMAN. Is it the future that you are afraid of?

Dr. TILLEY. We are not afraid of the future if we can build some more facilities. If we can take in a class of 120 students and we had sufficient laboratory space, a few more faculty, more space in the anatomical areas and so on, we could train these students and the dropouts would not be so serious.

The CHAIRMAN. Evidently you don't understand me, or I don't understand you. We are talking about the capacity that you have for freshman applicants. Do I understand you to say that you have had applicants to the extent that you accommodate those who apply and who meet the requirements, but still on an average could take some 20 more in each class? The point is, if you could accommodate more than you accept in the freshman classes and you lose some as you go along, then it would leave unused capacity for even more students.

Dr. TILLEY. At the present time I do not think we have that capacity, Mr. Chairman.

Mr. GOURLEY. As many as 2,486 have applied and only about 530 could be accepted.

The CHAIRMAN. You mean during the different years?

Mr. GOURLEY. No, during a single year. For the year, 1960–61, there were, just a moment, please.

Mr. MACDONALD. Could I ask one question while we are waiting?

The CHAIRMAN. Yes.

Mr. MACDONALD. What is the definition of an osteopath?

Dr. TILLEY. I will be glad to see if I can help you. Osteopathy is a school of medicine that involves general practice and the specialty fields of practice, but places a particular emphasis upon the study of the structure of the body and the relationship of disturbances in the structure of the body and biomechanics to the general health. We have developed methods of therapy and of diagnosis that lead toward normalization of these parts that are abnormal. That is the major difference, as I see it, between the practice of medicine and the practice of osteopathy, a special emphasis on the structure of the body.

Mr. GOURLEY. In 1960–61, 496 first-year students were enrolled. These were culled from 2,240 applications by 1,768 applicants.

The CHAIRMAN. You enrolled 496?

Mr. GOURLEY. That is right.

The CHAIRMAN. From how many applications?

Mr. GOURLEY. From 2240 applications by 1,768 applicants. Some were multiple applications.

Mr. YOUNGER. Duplicate applications.

The CHAIRMAN. That means that you had 1,768 who applied for entrance and you enrolled only 496?

Mr. GOURLEY. That is right.

The CHAIRMAN. Why didn't you get your capacity then?

Mr. GOURLEY. They were accepted for capacity but there is attrition between acceptance and enrollment, such as last minute cancellations for financial reasons.

The CHAIRMAN. Were the 1,200-plus who applied, that is, the 1,200-plus applicants——

Mr. GOURLEY. 1,768.

The CHAIRMAN. I know, but the 1,200-plus applicants that were not enrolled—let us talk about them for a minute—they could not meet the entrance requirements.

Dr. TILLEY. They do not meet the requirements. Many more apply than we enroll. In our case it is one out of three.

The CHAIRMAN. Let us say, then, that you had, out of all those who applied, approximately 500 who could meet the requirements, and you had approximately 500 places that you could accommodate them.

Dr. TILLEY. Yes, sir.

The CHAIRMAN. Would that be correct?

Dr. TILLEY. Yes, our full entering class now is 530.

The CHAIRMAN. In other words, in the 6 colleges you have facilities to take care of 530 each year on an average.

Dr. TILLEY. That is right.

The CHAIRMAN. Then you just about get your capacity?

Dr. TILLEY. That is right.

The CHAIRMAN. Now, if you had more facilities available would that cause you to have to reduce your requirements?

Dr. TILLEY. No, certainly not.

The CHAIRMAN. What makes you think you would have a greater number of applications then?

Dr. TILLEY. I think that under the terms of the legislation this would undoubtedly stimulate more applications. I am sure we would get more applicants, Mr. Chairman, if these financial problems did not arise. Most of our students come from the large cities, very few of them as a matter of fact come from the rural areas.

The CHAIRMAN. You think that there are many people who have the necessary qualifications who would become applicants if the incentives that you have in this proposed legislation were given?

Dr. TILLEY. I am quite sure that is true. I live in a rural area and I meet a lot of people in the office. They come and talk to us about these problems.

The CHAIRMAN. I recall one time when we had the proposed salary increase for Members of Congress before us, a lady asked one of our colleagues if he thought the increase in salaries to the Members of Congress would mean the country would get better Members to serve in Congress. Of course, he had to reply to that that he did not think so at all, but it would give an incentive for those of us who are here today.

So we want to find out, if there is an actual need for this legislation. That is what I said at the outset, a case had to be made by you people who are asking for this assistance that this legislation is required to supply the needs of the country for medical care. Now, it would seem

to me that your greatest argument here would be that the legislation is needed to meet future needs. Is this situation of yours static? It has been about the same for the last 5 years. It has not increased or decreased.

Dr. TILLEY. That is true. We feel the number of qualified students has diminished. We believe that the contemplated legislation will be a very strong stimulus to improving the number of applicants and their qualifications.

The CHAIRMAN. But the ratio per 100,000 population has gone up steadily year to year.

Dr. TILLEY. That is right.

Mr. GOURLEY. Ratio of what, Mr. Chairman?

The CHAIRMAN. The ratio of the available osteopaths to serve the public, the ratio to population.

Mr. GOURLEY. I think that is about 8 per 100,000. It has been that. I don't think it has gone up.

The CHAIRMAN. You mean you have had a steady increase in the availability of osteopathic doctors?

Mr. GOURLEY. No, I mean that we graduate around 450 a year, but there is a considerable attrition. My understanding is that while there has been some increase each year, nevertheless the population ratio remains about the same.

The CHAIRMAN. You know the population has increased.

Mr. GOURLEY. That is right. Public Health Service figures for 1961 show the osteopathic census at 14,350 and the ratio of physicians, D.O., per 100,000 population, at 7.7.

The Public Health Service Health Manpower Source Book (1959) lists the ratio at 8.5 in 1949 and 8.0 in 1957 and 1958. I will furnish this information for the record.

(The information mentioned above is as follows:)

Number of physicians and physician-population ratios: United States, 1931–58, with projections to 1975

Midyear	Total population [1]	Number of physicians [2]			Physicians per 100,000 population		
		Total	M.D.	D.O.	Total	M.D.	D.O.
	Thousands						
1931	124,149	166,900	156,400	10,500	134.4	126.0	8.4
1940	132,122	187,600	175,200	12,400	142.0	132.6	9.4
1949	149,188	214,000	201,300	12,700	143.4	134.9	8.5
1957	171,196	240,300	226,600	13,700	140.4	132.4	8.0
1958	174,064	244,500	230,600	13,900	140.5	132.5	8.0
1975	235,246	312,800	296,100	16,700	133.0	125.9	7.1

[1] Includes Armed Forces overseas.
[2] Excludes graduates of the years concerned.

Sources: Physicians (M.D.) 1931-57—American Medical Association. "American Medical Directory, 1958: a Register of Physicians of the United States." Twentieth edition. Chicago, the association, 1958. Table 2.

Physicians (D.O.) 1957—American Osteopathic Association. "A Statistical Study of the Osteopathic Profession, Dec. 31, 1957." Chicago, the association, 1958. Estimates for other years by Public Health Service based on numbers surviving from all D.O.'s graduated from U.S. schools of osteopathy.

M.D.'s and D.O.'s 1958 and 1975—Estimates by Public Health Service, based on number of graduates of U.S. schools at levels currently predicted (7,410 graduating M.D.'s and 525 graduating D.O.'s each year 1965-74).

NOTE.—To maintain the 1957 ratio of 140.4 physicians per 100,000 population in 1975 requires about 330,000 physicians (M.D. and D.O.). The number of physicians required in 1975 to raise below-average States the 1957 national ratio is about 360,000.

Mr. YOUNGER. I have just one question.

Are there any osteopathic physicians in the Government hospitals or military hospitals that you know of?

Dr. TILLEY. There are none in the military.

Mr. GOURLEY. There are some in the Veterans' Administration and the Public Health Service. I do not believe, however, that those who are serving now in the Public Health Service and the Veterans' Administration are in the hospitals.

Mr. YOUNGER. That is all.

Mr. COLLIER. I have just one question, if I may. Every college and university, as we know, has an annual academic and economic student fatality rate each year. In your own case have you ever broken down the loss of students, call them "washouts" or whatever you desire, on the basis of those which were economic and those which were academic?

Dr. TILLEY. I haven't got the figures. As a matter of fact, we do this. We know pretty well. It is about even, as a matter of fact, in our school.

Mr. COLLIER. Thank you, sir.

The CHAIRMAN. Thank you very much, gentlemen, for your testimony.

Dr. TILLEY. We thank you, Mr. Chairman.

The CHAIRMAN. Mr. Gourley's supplementary statement, with attachments, may be placed in the record at this point.

(The supplementary statement submitted by Mr. Gourley, with attachments, follows:)

AMERICAN OSTEOPATHIC ASSOCIATION,
Washington, D.C., February 7, 1962.

Re H.R. 4999, supplementary osteopathic statement.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. HARRIS: The Surgeon General's Medical Education Consultant Group in 1959 charged the medical and osteopathic colleges to expand their training facilities, and recommended Federal assistance, so that increased numbers of physicians could be made available for the rapidly rising population.

At that time, 1959, the physician-population ratio was 133.4 M.D.'s and 8 D.O.'s per 100,000 (48 States and the District of Columbia). The 1961 physician-population ratio was 132.8 M.D.'s and 7.7 D.O.'s per 100,000 population (50 States, District of Columbia, Puerto Rico, and outlying U.S. areas). Source: Public Health Service.

A new osteopathic college is in the planning stage. Major expansion is planned by four of the existing colleges.

In the attached letter of February 5 from J. M. Peach, president of the Kansas City College of Osteopathy and Surgery at Kansas City, Mo., he says in part:

"The present educational plant was constructed to accommodate classes of from 60 to 70 in each of the 4 years of the instructional program. Recognizing a number of years ago the basic necessity of providing education and training for an increasing number of physicians, we have increased the utilization of our classrooms and laboratories from the usual 3 or 4 clock hours per day for classroom and/or laboratory, to from 6 to 8 or 10 clock hours per day in classroom and laboratory utilization. We have reached the "bursting" point as it relates to our present physical facilities and are desperately in need of additional classrooms, laboratories, equipment, and personnel to maintain standards of education and training and also to provide educational opportunities for a larger number of students * * *

"We are at a very important stage at this time with the Redevelopment Authority of Kansas City in connection with the acquisition of land for our expansion of our educational plant purposes in a renewal project area that is

immediately adjacent to the existing campus of the college. We have undertaken this acquisition of approximately 15 acres of land in anticipation of aid from Federal or other sources that will enable us to bring into actual being the classrooms, the laboratories, clinics, and hospitals that are urgently needed by our institution to meet the challenge of providing more doctors for the increasing population of our land * * *.

"Grants and available loans from the Federal Government for the purposes of providing educational facilities for an increasing number of doctors in training would enable us to satisfy the important question of timing as it relates to this development program."

In the attached letter of February 4 from Merlyn McLaughlin, president of the College of Osteopathic Medicine and Surgery at Des Moines, Iowa, he states in part:

"Our facilities are adequate for accepting 70 students per class. The attached chart points out that the college has been accepting more than the number of 70 freshmen. At the same time you will note that the college has been turning away 10 to 20 qualified student per year. It is estimated on basis of present applications we will turn away at least 40 qualified students this year. It must also be pointed out that we cease accepting applications as soon as the class is filled. For example, last year we turned back all applications after the 1st of July."

In these days of keen competition by other careers offering less expensive training and earlier rewards, who knows how many qualified students are diverted to other fields because the college of their choice is not available.

President McLaughlin further states:

"Present facilities are not adequate for all needed aspects of our teaching program, nor do they provide space for the postdoctoral courses that are required by the profession * * *. The board of trustees is actively engaged in securing land for a new campus which will provide for needed expansion. The urban renewal board has set aside 27 acres for a campus * * *. The present plans call for a college and research building to accommodate a class of 100 entering freshmen per year. The college must have Federal aid to successfully accomplish these plans."

An attached letter dated February 5 from Frederic H. Barth, president of the Philadelphia College of Osteopathy states in part:

"Our plans for faculty, facilities, and financing are all predicated on a predoctoral enrollment of 600 (150 per class) and 150 full-time postdoctoral students (interns and residents) plus an indeterminate number of part-time students.

"We are under considerable pressure from the profession, the Commonwealth, and numerous communities now without a physician's services to increase our enrollment. We are also under pressure from the applicants themselves.

"It is essential to emphasize that the college teaching facilities (constructed in 1929) were built to accommodate a class of 75 students. We have always overloaded this limit during the past 15 years."

An attached letter dated February 5 from R. A. Kistner, D.O., M.D., dean of the Chicago College of Osteopathy reads in part as follows:

"Our program is carefully dovetailed into the overall Hyde Park-Kenwood urban renewal program. We are presently in the process of developing rough plans for the basic science research building which will occupy a position across the street from the present hospital and clinic on land which we have an option to buy from the city after the existing slum buildings are demolished and the land is cleared. It is anticipated that this structure will contain the lecture room, laboratory, and seminar space for classes of 100 members.

"I would like to touch on one additional important area in the apparently high attrition rate between acceptance and matriculation of our students. This has to do with finances. The greatest activity in student recruitment, of course, comes from the areas of greatest osteopathic population. The Chicago College of Osteopathy attracts the majority of its students from industrial areas such as Detroit, South Bend, Youngstown, and others. When any form of business recession enters into our national economy, it appears that these areas are generally involved to a sizable degree. A great number of our potential matriculants were forced to withdraw at the last minute because of unemployment of the supporting parent or lack of availability of a summer job for the student.

"I would like to correct one error regarding the capacity of our freshmen class. It is (generally) listed as 76. Actually, we can take but 72 students in the freshmen class. We have exactly 72 spaces in the biochemistry lab, 72 places in the anatomy laboratory, etc."

Figures furnished in the oesteopathic testimony indicated an overall average of about 97 percent utilization of freshmen capacity, for a specific period. More meaningful are Public Health Service figures showing the student body and graduates of the six osteopathic colleges each year during the past decade as follows:

Academic year ending	Number	Students	Graduates	Academic year ending	Number	Students	Graduates
1951	6	1,876	427	1957	6	1,866	442
1952	6	1,928	427	1958	6	1,921	439
1953	6	1,917	462	1959	6	1,942	469
1954	6	1,897	449	1960	6	1,915	427
1955	6	1,867	459	1961	6	1,944	506
1956	6	1,883	467				

It is respectfully requested that this supplementary statement and attachments be made a part of the record immediately following the testimony of Dr. R. McFarlane Tilley, witness for the American Association of Osteopathic Colleges.

The privilege of submitting this additional material is very much appreciated.

Very truly yours,

LAWRENCE L. GOURLEY,
Legal Counsel.

KANSAS CITY COLLEGE OF OSTEOPATHY AND SURGERY,
Kansas City, Mo., February 5, 1962.

MR. LAWRENCE L. GOURLEY,
Counsel, Council on Federal Health Programs,
American Osteopathic Association, Washington, D.C.

DEAR MR. GOURLEY: Referring to our telephone conversation of Saturday, February 3, and your need for prompt and accurate information concerning our college in a variety of its activities, I am sending to you in this letter items of information that I believe will be of help in presenting the circumstances of the Kansas City College of Osteopathy and Surgery in relationship to its need for aid and support in connection with its educational program.

In our convention you evidenced an interest to know exactly the number of applications that we have received for enrollment in our college for the several entering classes beginning in 1957 and continuing through the most recent freshmen class that was enrolled in September 1961. I would explain to you that this information is very accurate and obtained from our records that are compiled on a fiscal year basis beginning June 1 of each calendar year and ending May 31 of the following calendar year.

In tabular form, I am showing the number of qualified candidates whose applications were received by us in the fiscal period ending May 31, 1957, and each fiscal period thereafter. The first figure represents the total number of applications received for the period ending in May of the indicated year, the second figure indicates the number of freshmen students actually enrolled for that year, and the third figure represents the total number of students enrolled in the 4-year course of studies in the fall of the indicated year.

	Total applications	Freshman students	Total enrolled in fall
1957	255	105	381
1958	263	100	400
1959	264	101	401
1960	317	76	383
1961	281	103	374

Commenting on the 76 freshmen enrolled in the fall of 1960 and the significant drop in enrollment of that year, I believe that it can be accounted for in an understandable fashion. The undersigned unfortunately sustained a coronary attack in the early summer of that year that had been preceded by a very serious injury to the dean that incapacitated him for a period of at least 6 to 8 weeks at

a critical period in the enrollment season, all of which resulted in confusion in the selection and enrollment procedure of our freshman class.

A final and unexpected difficulty arose through the fact that 27 of those students who had been found acceptable and had been approved for enrollment failed to report for enrollment at the time of the opening of the school year in September of 1960. The explanation given in many instances was that of financial hardship and inability to enroll as originally intended. It is customary in our planning to provide a "cushion" of approximately 10 to 15 percent in anticipation of such occurrences in the future.

From this report, I believe that we have established reasonably the ability of our institution to enroll students that meet our established premedical requirements in a satisfactory fashion. Our present efforts toward completing the enrollment of the freshman class that will complete its work in September of 1962 are proceeding apace. About 75 percent of the 110 appointments have already been made and we have more than an adequate backlog of well motivated and desirable applicants to more than fill the remaining places in this particular class.

You will note from the tabulation that we received about 2.75 qualified applications for each place that is available in our entering freshman class. It has been our observation that the general scholastic quality of our candidates has tended to improve slightly during each succeeding year. Our records show that the average scholastic premedical record of those students entering our freshman class in September 1961 was approximately 1.65 on a 3-point scale which can reasonably be described as a fair B— average for the entire class. We will not accept candidates whose grade point average is less than 1.2. You can see from the record given above that the general scholastic attainments of the applicants to this college are of a reasonably commendable quality.

We have a definite program of development for our college that will enable us to increase our total enrollment by at least 25 percent subject, of course, to its implementation from the standpoint of construction, equipment, and personnel. On the basis of this modest increase in enrollment, we do not anticipate the slightest difficulty in enrolling classes of sufficient size to bring about this increase in total enrollment.

I might say in passing that the present educational plant was constructed to accommodate classes of from 60 to 70 in each of the 4 years of the instructional program. Recognizing a number of years ago the basic necessity of providing education and training for an increasing number of physicians, we have increased the utilization of our classrooms and laboratories from the usual 3 or 4 clock hours per day for classroom and/or laboratory, to from 6 to 8 or 10 clock hours per day in classroom and laboratory utilization. We have reached the "bursting" point as it relates to our present physical facilities and are desperately in need of additional classrooms, laboratories, equipment, and personnel to maintain standards of education and training and also to provide educational opportunities for a larger number of students.

I have mentioned repeatedly the number of qualified applications that we have been accustomed to receive each year as running in a ratio of 2.75 to each available place in the class. You can see that by increasing our physical plant, our equipment, and our faculty personnel, we would be able to not find it necessary to turn away qualified applicants who are properly motivated, properly prepared, and able to undertake professional training leading to graduation as a physician to serve his fellow man.

Returning briefly to our program of development, we are at a very important stage at this time with the Redevelopment Authority of Kansas City in connection with the acquisition of land for our expansion of our educational plant purposes in a renewal project area that is immediately adjacent to the existing campus of the college. We have undertaken this acquisition of approximately 15 acres of land in anticipation of aid from Federal or other sources that will enable us to bring into actual being the classrooms, the laboratories, clinics, and hospitals that are urgently needed by our institution to meet the challenge of providing more doctors for the increasing population of our land.

We have available the funds necessary to meet our share of the cost of this land acquisition, but we are having some difficulty at this particular moment in satisfying the redevelopment authority on our timetable of construction that will enable us to utilize this land for the purposes outlined. Grants and available loans from the Federal Government for the purposes of providing educational facilities for an increasing number of doctors in training would enable us to satisfy the important question of timing as it relates to this development program.

A community study carried on in Kansas City duing the past 3 or 4 years by the Planning Committee of the Kansas City Area Hospital Association has established, through a coordinated hospital planning study, the needs in this area of our citizenry for the next 10 years. Our college and its teaching hospitals have been included in this coordinated program and on the basis of study, our facilities have been described as being both structurally and functionally obsolete and as being unsuitable for an educational program and for adequate patient care. I hasten to say that the great majority of the hospitals and related health facilities in Kansas City were similarly described and a program of raising funds to improve this position from the business, industry, and philanthropic agencies of our city has been undertaken in the total amount of over $18 million. At this moment, the program has reached a standstill, but we have great confidence in its ultimate success and our participation in the program in substantial amounts.

It is my hope that this brief summary of our position from the standpoint of our ability to obtain substantial numbers of well-qualified students for our educational program and the needs that we have to supplement our existing physical plant, equipment, and faculty personnel through outside help is understandable to you in presenting our case to the Congress.

Please do not hesitate to call upon me for additional or supplemental information that you may require.

Sincerely yours,

J. M. PEACH, *President.*

COLLEGE OF OSTEOPATHIC MEDICINE AND SURGERY,
Des Moines, Iowa, February 4, 1962.

Mr. LAWRENCE L. GOURLEY,
Legal Counsel, American Osteopathic Association,
Washington, D.C.

DEAR MR. GOURLEY: Our facilities are adequate for accepting 70 students per class. The attached chart points out that the college has been accepting more than the number of freshmen. At the same time you will note that the college has been turning away 10 to 20 qualified students per year. It is estimated on basis of present applications we will turn away at least 40 qualified students this year. It must also be pointed out that we cease accepting applications as soon as the class is filled. For example, last year we turned back all applications after the 1st of July.

SELECTION OF STUDENTS

In addition to the selection requirements listed in the catalog, pages 8 and 9, all applicants are required to come to the college for entrance exams and a personal interview.

The exams given are Minnesota multiphasic personality inventory and the Ohio State University psychological test. The interview committee is composed of the dean, a representative of the basic science faculty, and a representative of the clinical staff who is a D.O. The applicant is also given a tour of the college facilities at this time.

FACILITIES

Present facilities are not adequate for all needed aspects of our teaching program, nor do they provide space for the postdoctoral courses that are required by the profession.

The college is located in a newly established urban renewal district; however, no land is available adjacent to the present campus for expansion.

The board of trustees is actively engaged in securing land for a new campus which will provide for needed expansion.

The urban renewal board has set aside 27 acres for a campus. There is a 60-acre plot of surplus land at Fort Des Moines which will be available and a real estate company has offered 25 acres of land if the college will locate in his area. We will have to make a choice here.

The present plans call for—

(1) A college and research building to accommodate a class of 100 entering freshmen per year.

(2) A 150-bed teaching hospital which will be expanded to 400 beds over a period of 10 years.

(3) Housing for students, faculty, and staff.

The college must have Federal aid to successfully accomplish these plans.

Sincerely,

MERLYN MCLAUGHLIN, *President.*

5-year enrollment data

	1957	1958	1959	1960	1961	1962 [1]
Number of applications	177	187	190	161	199	250
Number qualified	90	90	95	90	105	125
Number enrolled	80	74	75	70	82	82
Qualified turned away	10	16	20	20	23	43
Number graduated	74	[2] 64	[3] 67	[4] 65	[5] 80	----------
Attrition to date	6	10	8	5	2	----------

[1] Estimated.
[2] Expected to graduate in June 1962.
[3] Currently rnrolled in 3d-year class.
[4] Currently enrolled in 2d-year class.
[5] Currently enrolled in 1st-year class.

PHILADELPHIA COLLEGE OF OSTEOPATHY,
Philadelphia, Pa., February 5, 1962.

LAWRENCE L. GOURLEY, Esq.,
American Osteopathic Association,
Washington, D.C.

DEAR MR. GOURLEY: I present herewith certain additional facts for your use in considering the enrollment of Philadelphia College of Osteopathy:

1. Philadelphia College of Osteopathy in making its plans for the future and in response to an increasing demand for admission expects within the next college generation to double its size. Our plans for faculty, facilities, and financing are all predicated on a predoctoral enrollment of 600 (150 per class) and 150 full-time postdoctoral students (interns and residents) plus an indeterminate number of part-time students. (The enrollment for this group has averaged each year for the past several years around 300.)

2. We are under considerable pressure from the profession, the Commonwealth, and numerous communities now without a physician's services to increase our enrollment. We are also under pressure from the applicants themselves.

I submit below a report on our application experience for 5 years. I wish to emphasize that the figures given in the "Applications considered" column are actually figures resulting from a prescreening of applications. If these were included, we would have to add from 50 to 75 applications each year.

It is essential to emphasize that the college teaching facilities (constructed in 1929) were built to accommodate a class of 75 students. We have always overloaded this limit during the past 15 years.

I wish also to call to your attention, in the cases of the classes admitted in 1959, 1960, and 1961, the attrition came very early in the program and overwhelmingly because of financial distress on the part of those who dropped out. Some of these will be picked up again in the next few years after they have stabilized their finances.

	Applications considered	Accepted	Admitted (according to registrar's report)	Graduated or currently enrolled
1957	259	94	91	84
1958	239	90	84	79
1959	232	84	79	67
1960	220	87	66	64
1961	251	108	91	86

Comparing the application rate of February 1961 with February 1962 we find that we are over 50 applications ahead of 1961.

We hope this information will asisst you in any presentations you make.

Yours very sincerely,

FREDERIC H. BARTH, *President.*

CHICAGO COLLEGE OF OSTEOPATHY,
Chicago, Ill., February 5, 1962.

Mr. LAWRENCE GOURLEY,
Washington, D.C.

DEAR MR. GOURLEY: It is my pleasure to give you a report on the long-range growth plans of the Chicago Osteopathic Center. Our program is carefully dovetailed into the overall Hyde Park-Kenwood urban renewal program. As you will recall from national news releases over the past several years, the Hyde Park-Kenwood area has been transformed from a high class residential area into an extreme slum situation. With the cooperation of the Federal Government, city of Chicago agencies, University of Chicago and many civic groups, this area is slowly undergoing a transition back into a neighborhood where people might live and work without fear of their personal safety.

As part of a 5-year plan from 1960 to 1965, the following are the major development areas: (1) A small addition to the clinic which would make the present facilities adequate until a new clinic building could be developed, (2) the construction of two hospital wings which would increase the complement of teaching beds in our affiliated hospital to 175, (3) the construction of a new multipurpose building which would house classrooms, laboratories, administrative offices, faculty offices, and research facilities for our faculty, (4) the construction of a new clinic building which would have the overall annual capacity in excess of 150,000 patient visits.

The addition to the present clinic was completed last year and is in operation presently. We have completed the architectural drawings of our hospital wing, and currently are studying the contracts. It is anticipated that this phase of our development will begin this year.

We are presently in the process of developing rough plans for the basic science research building which will occupy a position across the street from the present hospital and clinic on land which we have option to buy from the city after the existing slum buildings are demolished and the land is cleared. It is anticipated that this structure will contain the lecture room, laboratory, and seminar space for classes of 100 members.

I recognize that we might have some difficulty in establishing the need of facilities for classes of 100 when we have failed to matriculate a full class in each of the past 5 years. However, we do have sufficient number of applications and we do accept in the vicinity of 100 applicants each year. However, we insist on a personal interview with each applicant prior to acceptance. This is a good thing in that we are assured of top caliber matriculants. It also works against us as many of our accepted students select another school when they have the opportunity to view the slum environment in which our school is located. As our campus development plan proceeds and the Hyde Park-Kenwood urban renewal program develops more impetus, this deterrent will be removed. Already, a noticeable change in our neighborhood is visible.

Before I leave the subject, I would like to touch on one additional important area in the apparently high attrition rate between acceptance and matriculation of our students. This has to do with finances. The greatest activity in student recruitment, of course, comes from the areas of greatest osteopathic population. The Chicago College of Osteopathy attracts the majority of its students from industrial areas such as Detroit, South Bend, Youngstown, and others. When any form of business recession enters into our national economy, it appears that these areas are generally involved to a sizable degree. A great number of our potential matriculants were forced to withdraw at the last minute because of unemployment of the supporting parent or lack of availability of a summer job for the student.

Before closing, I would like to correct one error regarding the capacity of our freshman class. Mr. Lawrence Mills of the office of education of the AOA lists this figure as 76. Actually, we can take but 72 students in the freshman class. We have exactly 72 spaces in the biochemistry laboratory, 72 places in the anatomy laboratory, etc.

I hope that this information will be helpful to you. I would be pleased to amplify this material if necessary.

Very truly yours,

R. A. KISTNER, D.O., M.D., *Dean.*

SUPPLEMENT MATERIAL PREPARED BY PUBLIC HEALTH SERVICE

Loss of students enrolled in osteopathic colleges

Entering class		Graduating class		Percent not graduating
September	Number	June	Number	
1954	487	1958	439	9.9
1955	520	1959	469	9.8
1956	495	1960	427	13.7
1957	553	1961	506	8.5
1958	516	1962	457	11.4
Total	2,571		2,298	10.6

(Supplementary information furnished by Department of Health, Education, and Welfare)

DEAR MR. HARRIS: This will reply to your letter of January 26, concerning osteopaths.

With respect to enrollment in schools of osteopathy the January 1961 educational supplement to the Journal of the American Osteopathic Association has the following information:

"Applications for admission to osteopathic colleges for the academic year starting in the fall of 1960 did not show a decrease from the number of applications from the entering classes of the fall of 1959. Unfortunately, for the past several years, one or two osteopathic colleges have experienced a large number of last-minute cancellations. Lack of money, failure to complete the required credits for admission, or a last-minute decision to attend another osteopathic college nearer home usually accounts for these last-minute cancellations. Last year, the Philadelphia College of Osteopathy especially was hard hit when 23 applicants who had been granted full acceptance or placed on the alternate list failed to matriculate. Consequently there were 14 empty places in that college in 1959. In 1960, only 75 first-year students matriculated at the Kansas City College of Osteopathy and Surgery, which for years has been admitting a freshman class of 100. Most of the dropouts were accounted for by failure to complete certain prerequisite subjects for admission or to maintain the required grade level. On the other hand, the Philadelphia college, which had experienced a series of late cancellations in 1959, granted acceptances to a larger number of applicants in 1960 and started the academic year with 11 more students than its expected class of 80. The comparatively small entering class at Kansas City College of Osteopathy and Surgery accounts almost entirely for the overall decrease in the six entering classes."

We have inserted in the record of the hearings on H.R. 4999 information on the number of osteopathic physicians in each State, and the rate per 100,000 population.

The CHAIRMAN. Dr. Hugh R. Leavell?

STATEMENT OF DR. HUGH R. LEAVELL, PRESIDENT OF THE ASSOCIATION OF SCHOOLS OF PUBLIC HEALTH; ACCOMPANIED BY DR. ERNEST L. STEBBINS, DEAN OF THE SCHOOL OF HYGIENE AND PUBLIC HEALTH OF THE JOHNS HOPKINS UNIVERSITY, AND DR. MYRON E. WEGMAN, DEAN OF THE SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF MICHIGAN

Dr. LEAVELL. I wonder if Dr. Stebbins and Dr. Wegman could join me at this point?

The CHAIRMAN. Dr. Wegman and Dr. Stebbins.

Dr. Leavell, I believe you are the president of the Association of Schools of Public Health.

Dr. LEAVELL. That is right, sir.

The CHAIRMAN. Dr. Wegman is the dean of the School of Public Health of the University of Michigan. Dr. Stebbins is the dean of the School of Hygiene and Public Health of Johns Hopkins University.

Mr. FRIEDEL. It is a great pleasure for me as a Representative from Maryland to greet Dr. Ernest L. Stebbins, the distinguished dean of the School of Hygiene and Public Health at Johns Hopkins University in my home city of Baltimore.

Johns Hopkins founded the first school of public health in the country, and Dr. Stebbins has been its dean since 1946. Prior to that he was commissioner of health for New York City, and had served in the State health departments of New York and Virginia.

Dr. Stebbins is a leader in public health for this country and also in international health. He is president of the Citizens Committee for the World Health Organization, and president of the committee for specialty boards of the American Medical Association. I look forward with keen interest to his testimony before this committee.

The CHAIRMAN. Thank you Mr. Friedel.

Mr. Keith, our colleague from Massachusetts, would like to say a few words.

Mr. KEITH. It is gratifying to me that this committee will have the benefit of testimony by Dr. Hugh Leavell, one of our country's most eminent public health leaders, as evidenced by his present position as president of the Association of Schools of Public Health and his past presidencies of the American Public Health Association and of the National Health Council. I know him best as professor of public health practice at the Harvard University School of Public Health in Boston.

Dr. Leavell is a Kentuckian, educated at the University of Virginia, Harvard Medical School, and the Yale University School of Public Health. He practiced medicine for several years in Louisville and won recognition there for his skillful work as health commissioner during and after the disastrous Louisville flood in the 1930's. He has since served with the Rockefeller Foundation, with UNRA in Europe, and with the Ford Foundation in India. He is about to devote a sabbatical leave from Harvard to a globe-circling study of ways in which the schools of public health can improve their already extensive training of foreign public health students and other contributions to the health aspects of the foreign aid program.

We can learn much from Dr. Leavell and I am delighted that he is here today.

Mr. DINGELL. Very briefly I would like to welcome Dr. Myron Wegman, who is the dean of our University of Michigan School of Public Health. He is one of our outstanding citizens. He is dean of a school which has compiled a tremendous record in the research and training in the field of public health. He is a trained pediatrician but forewent his medical career to enter the field of community service. He has a particularly distinguished record in this field. He was Secretary General of the Pan American Sanitary Bureau, which is the World Health Organization agency in Latin America. He has been a distinguished member of and consultant to national and international bodies in the field of public health. I think that his testimony will be of particular and unique value to the committee today.

The CHAIRMAN. Gentlemen, let me say on behalf of the committee we are glad to have each and all of you here to present testimony on this legislation in behalf of the Association of Schools of Public Health. I am sure our colleague from Pennsylvania, a member of this committee, Mr. Rhodes, would like to be here, too, because he has been especially active in this field.

Now, I observe you have three statements here, and each one of them is several pages.

Dr. LEAVELL. Could we have those inserted in the record, sir, and just speak extemporaneously? If we could do that we would appreciate that opportunity.

The CHAIRMAN. You would like to have all three of the statements included in the record simultaneously; that is, one following the other?

Dr. LEAVELL. Yes.

The CHAIRMAN. At this point in the record?

Dr. LEAVELL. That would be very helpful. If we could just speak briefly extemporaneously.

The CHAIRMAN. Very well. You may have that privilege. Your statements will be included in the record.

(The statements of Drs. Leavell, Stebbins, and Wegman follow:)

STATEMENT SUBMITTED BY DR. HUGH R. LEAVELL

Gentlemen, I am Hugh R. Leavell, president of the Association of Schools of Public Health. Our 12 member schools in the United States are the only public health schools our country has; 2 schools in Canada also belong to our association.

Before going into public health nearly 30 years ago, my work was as a private medical practitioner in Kentucky. This private practice experience helps me to see the important differences between practice with individual patients and the community work done in public health. My public health work has been as a local health officer, in foreign service during the last war, with the Rockefeller and the Ford Foundations, and for the past 15 years as professor of public health practice at the Harvard School of Public Health.

The schools of public health appreciate the opportunity of endorsing the legislation which is before you in H.R. 4999 and the similar bills. We are glad that the administration has suggested a vigorous approach toward solving the health manpower problem. We are pleased, too, this committee is giving it high priority.

Mr. Chairman, you and your colleagues have an impressive record of dealing effectively with the Nation's health needs. Because of the leadership which you have exerted, our schools of public health feel that we have in the Congress a great many friends who understand our special problems. Among several deserving of special mention is your colleague, Mr. Rhodes of Pennsylvania, who has taken the time to study our needs and the contributions we can make. For his efforts in behalf of graduate public health education the whole field of public health owes a real debt of gratitude.

My associates, Dr. Stebbins, of Maryland, and Dr. Wegman, of Michigan, and I want to leave several ideas with you.

We in the schools of public health find that many people have very hazy ideas about the work we do. May I briefly clarify this point? We know from experience that when people understand our work they appreciate its importance to the Nation.

It has been said truly that "public health is people." To understand more of what that means, let us look briefly at what a man must do to prepare himself as a public health physician to serve the people of a community such as we all know well. He must go through college and through medical school. After this he takes an internship and perhaps a residency. During the period of hospital training he gets his board and keep and a tiny salary which is somewhat bigger now than was the case in my time. Recently I figured out my earnings during 4 years of hospital training, and they came to rather less than a totally unskilled laborer in India makes—a rupee a day, or about 20 cents. Most of the physicians now in public health jobs also have had some time in practice, either in private practice as was my case, or in the Armed Forces or

some industrial kind of employment. Somehow they come to feel that public health would be more challenging, because it gets at the root of the disease problem by trying to keep it from happening at all instead of waiting to treat it after it has already happened.

To be prepared for leadership in public health a physician also must become a specialist, and to do this he must go to a public health school for 1 or more years for his master's degree. He also needs a residency in a public health agency for 2 years, and then after a couple of years more working under a public health specialist he is ready to take his examination for certification by the board of preventive medicine. This board is under the supervision of the American Medical Association just as are the other boards in surgery, pediatrics, obstetrics, and so on.

Let's add up the years after high school:

	Years
College	4
Medical school	4
Internship	2
School of public health	1
Residency	2
Practice under supervision	2
Total	15

This 15-year total is just about the minimum, as the great majority of physicians have some years of medical practice added to the list just given. All this training means a tremendous investment of both time and money. By the time it is finished the man or woman will be well over 30, and unless he is very unusual he will want to be married and have a family by then. Nowadays the wife very often works to help out, before the children come.

What sort of a career can the fully qualified public health man look forward to? He will generally be a government servant, working in some local community, in a State, in the Federal Government, or perhaps in some international position. His salary will be very much less than the earnings of the average private practitioner, so that the possible financial rewards of public health are certainly not great.

Why does he want to make this sacrifice? Probably the most important reason is that public health work is extremely satisfying for the kind of person who finds satisfaction in public service. It takes a person who can think abstractly and in terms of the group rather than only of the individual patient. It takes a person who finds his reward, not in the gratitude of individual patients or personal financial gain, but in serving the general good. Certainly, not everyone is suited for the work. But it is scarcely necessary to tell Congressmen about the joys and the trials of public service.

To us, public health means the sort of health work that is done in an organized way for a group of people or a whole community and not just for a single individual patient. Public health work is generally done by a team of people, for example, a physician, nurse, engineer, dentist, veterinarian, health educator, social worker, statistician, and so on. Much of this organized activity is carried on by governmental health departments. Though different from the work done by the individual practitioner, it certainly is no less essential.

The community must look to the public health trained leader for guidance about its overall health services. He is trained in the school of public health to look at the total picture of health. He must know about the research coming out of the laboratories. He must be able to make a community diagnosis, including what the health needs may be, what resources there are to deal with them, and what the people of the community know and "feel" about their health. When it is clear that some health action is required, it is up to the public health man to see that the needed action is taken. He may do this through his own health department, or get some voluntary agency to do it, or convince the local private practitioners that the job is up to them. As the work goes on, the public health man must evaluate it, to see whether some changes in the method of approach would likely bring better results. Or it may be that the problem has to be taken back to the laboratory for more research before a satisfactory program can be mounted in the community.

If I have a pain or feel sick, I want a doctor trained to look after me as an individual. If on the other hand, many people become sick at the same time from the same cause we presume that there is an epidemic to be dealt with, and it becomes the public health man's job to get at the root of the trouble and not

only correct it, but see that it doesn't happen again. (The public health man tries to forestall the epidemic even before it occurs, if he has the tools, such as immunization, necessary to do so.) My individual doctor may send me to the hospital as a patient, and prescribe for me there. But the construction and operation of the hospital itself is an organized community activity.

The Congress has been generous in supporting health research, and there is no doubt that the Nation approves this support. We must never lose sight of the fact, however, that the results of this research must be applied in our communities if the people are to benefit. The private practitioner makes the application with his individual patient, and the public health man sees to the application on a communitywide basis. Both applications are again essential.

The glaucoma control program is a good example of how public health workers can cope with problems any of us may have as we grow older. Glaucoma is a disease in which pressure builds up within the eye and it is second only to cataracts in causing blindness. This disease is found in 2 percent of the people over 40—just suppose there were 500 Members of Congress in this age group, and all had the pressure within their eyes tested, we should expect to find 10 with glaucoma. With eye drops progress of the disease can be halted if it is discovered early.

The health department of Brookline, Mass., started a regular detection center a few years ago to detect glaucoma early, with approval and cooperation of local eye doctors. All available appointments are filled, yet at the same time a great many more people are having their eyes tested privately than ever did so before, as education has spread through the town. This is how public health works, through health education, through clinics for those who need them, and through stimulating private doctors to examine their patients thoroughly to find early disease. This kind of work keeps people off relief rolls, saves money and, in the long run, more than pays for itself.

Unfortunately, I must point out that Brookline, Mass., is an exception in being able to control glaucoma. It is one of the wealthiest towns in the country, able and willing to finance a comprehensive public health program. It has the funds with which to compete successfully for trained public health personnel who are in such short supply. The prevailing situation in States, cities, and towns throughout the Nation is that, for lack of trained health workers, detectable and treatable diseases such as glaucoma go largely undetected and untreated. The same is true of cancer of the cervix, which kills 16,000 women a year although, if detected early, this condition can almost invariably be corrected. This also applies to many other forms of cancer in men and women and in a host of childhood afflictions as well. If detected in time, they can be controlled. It is often said that the individual is at fault in not seeking periodic physical checkups and in not heeding the advice of health officials and private physicians. True enough, and yet here again the shortage of trained public health personnel is a critical factor for the health education of the public is one of the primary jobs of health departments. Without adequate staff members, trained in the techniques of health education and in the necessary followup of individuals and of groups, the job simply cannot be done. Health educators are trained in schools of public health, but there are not enough of them to go around.

The Congress has also provided support for international health work, on a bilateral basis—the United States working directly with some other country—as well as on a multilateral basis, as in the case of the World Health Organization or the Pan American Health Organization. To carry on this international health work there must be trained people going out from this country. There must also be provision for training health workers from the other countries. Both types of training are the job of the public health schools.

Public health cannot stand still. It is constantly on the alert to deal with new hazards as they arise in the environment, such as radiation, air pollution, and stream pollution, new food additives, new industrial hazards and new sources of accidents. Public health must find ways to combat new infectious diseases as they appear. And people must be persuaded to eat as they should as we learn more about the relationship between various foods and diseases such as arteriosclerosis and heart disease. As new measures to deal with cancer are found, they must be applied. Public health workers in economically fortunate countries like ours must find ways of adapting their knowledge to fit the health problems of the less fortunate countries.

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With his strong concern for the health of the entire community, the public health worker is bound to have great interest in the supply of properly trained physicians and dentists. We, therefore, should like to express our gratification in your consideration of H.R. 4999 since we believe enactment of this measure will be very helpful indeed in meeting the Nation's needs for health manpower.

We shall not attempt to document the need for increased numbers of physicians, whether medical or osteopathic, and dentists, as this has been done in detail by other witnesses. Our point as public health people is simply that an adequate supply of well-trained physicians and dentists is essential to public health. From this supply must be drawn not only private practitioners, but also men and women who will specialize in public health, who will care for our Armed Forces and their dependents, who will look after our industrial population, and who will represent this country internationally. The only qualification we have in our endorsement of efforts to augment training facilities and to recruit more students, is that this should have been done some years ago. The need is not newly discovered.

Suppose we as a nation had had enough trained physicians to be able to match the Russian offer to send doctors in considerable numbers to the Congo at the time the United Nations went in. No one has the illusion that it might have been possible for us to do this, and so we made no such offer, which is fortunate as we could not have made good. But the inability to even consider the possibility of such an offer greatly weakens our hand internationally. Instead of being able to "export" doctors to meet emergency situations in various parts of the world, we are in fact importing large numbers of physicians from other countries each year to man our hospitals with interns and residents. Some of you may have seen the network documentary television program on the Cambridge, Mass., City Hospital in April of last year. Cambridge is my home community, and students from our school of public health surveyed this hospital a few years ago. The present situation is worse than it was at the time of our survey. Yet it is typical of that in many, many other hospitals of this country. If you saw this television program you will recall that one foreign physician stated that he was working 120 hours a week in order that the workload might be covered, even if only superficially. It is obvious that we need more doctors, without further delay.

Let us look at the public health schools, for that is where the public health leaders are trained. The faculty as well as the students come from many different professions—the professions which make up the public health team. Before taking the course in the public health school practically all of them have qualified themselves as professional practitioners in medicine, dentistry, engineering, nursing and so on. The public health curriculum is really post-post-graduate.

The school of public health must bring these different people together to focus on the health needs of groups and communities, rather than simply individual patients. It is not easy to bring about such a change in point of view, yet this is what must happen to produce leaders able to grasp community health problems and to cope with them effectively.

The education of public health leaders in schools of public health is complicated and expensive, averaging more than $5,000 per student per year. It is not surprising that our public health schools have real financial problems.

These problems are due to several factors:

1. The education itself is costly because we must have people from a considerable number of different types of professions as teachers to give the necessary broad background.

2. Much of the teaching must be done in small seminar and laboratory groups, because the students also have very different types of basic professional training. Only a limited amount of our teaching may be done by the less expensive lecture method.

3. The private foundations which provided funds to help most of the public health schools in the past no longer are providing any substantial sums for teaching. These foundations take the view that they have done their part in demonstrating the importance of the schools, and they feel that the support must now come from the universities and from Government which employs the graduates of the public health schools.

4. The universities which have public health schools are interested in them, and want to do all they can to keep them running. However, the cost per public health graduate is relatively large. Demands on the universities from all quarters have multiplied to such an extent, that they are less and

less able to carry the heavy financial load of the public health schools, which enroll three out-of-State students for every one student from within the State.

5. The possibility of increasing tuition to narrow the deficit per student has been explored. It is evident that while modest tuition increases may be possible, particularly in some of the private schools, there is no possibility of increasing the tuition to the point where the deficit would be narrowed significantly.

What is the Nation's need for public health training? The Health Amendment Act (Public Law 84–911) provides public health traineeships. Under this act, the Surgeon General of the Public Health Service was required to call a conference to appraise the need for continuing and the effectiveness of the traineeship plan. This conference was held July 28–30, 1958. It was reported that "the data indicate a serious deficiency in the training of many currently employed personnel and document the areas of need for additional adequately qualified personnel to develop the specific health programs authorized by Congress and other public bodies."

The conference reported that at the beginning of 1958, "in official health agencies alone, there were well over 2,500 vacancies in professional categories due to lack of trained personnel." In addition, because trained people were not available for employment "over 20,000 professional workers now employed * * * do not have the formal specialized training they need to provide for the people the health protection made possible by today's technology."

In addition to the 22,500 mentioned above, the conference estimated that there must be added 6,100 more professionally trained workers to meet the inevitable expansion needed in the next 5 years due to population growth and new health hazards, such as radiation, and other hazards incident to rapidly developing technology. That makes a total of 28,600 to be trained. Not all these people can or should be trained in schools of public health, but if we can get construction funds our capacity can be expanded by 30 to 50 percent from the present number of about 1,200 students. The Public Health Service estimates construction needs for teaching facilities in existing schools of public health as amounting to $34 million, with another $18 million for new schools, a total of $52 million.

The Bureau of the Budget a few months ago asked the Public Health Service to report on the use of Federal funds to assist training programs in public health schools. Our association welcomed the opportunity to cooperate in getting the needed information together. We also asked our member schools to examine very carefully the needs for assistance in funds for teaching, research, and construction. Based on this examination, we prepared a report for the Bureau of the Budget, complementary to the report of the Public Health Service.

H.R. 4999 makes provision for Federal aid in construction of both teaching and research facilities. There is no question about the need for more space in which to carry on our work now and of the necessity for additional construction to do the public health job of the future. The great problem we have is in finding the matching funds.

We asked each of our schools, "What is the percentage of matching funds which your school would be able to raise toward the construction of teaching facilities?" In answering this question, most schools said they could raise about 15 percent, though some were less optimistic. It is "very difficult to interest foundations in the support of construction of teaching facilities." And though some State universities "find it more possible to secure legislative appropriations for teaching than for research buildings," the legislatures balk at making appropriations which will largely serve students who will work in other States.

Our schools have found that it is more possible to raise funds for research construction than it is to finance teaching facilities. "It is said that 'research' is fashionable and glamorous and teaching is not. At the present time, research construction needs come much closer to being met than do teaching facilities which are sorely needed by many of the schools." We must add that we consider the past rigid separation of teaching and of research construction to be "extremely detrimental and wasteful. A more flexible and less rigid interpretation of this sharp separation could provide an appropriate solution. These two functions are too closely related in the academic setting to be separated" in different buildings.

The need for construction of teaching facilities for training public health workers will be presented fully by Dr. Myron Wegman, dean of the University of Michigan School of Public Health. Michigan is a State university, sup-

ported by the State legislature with State tax funds. Dr. Wegman will describe the difficulties the six State public health schools anticipate in trying to secure construction funds from their State legislatures.

It is fair to say, on the part of the public health schools, that if we are to make progress in building needed teaching facilities, the program needs to be based on our raising for matching purposes about 15 percent of the total cost. It would be unrealistic to expect that we can raise a larger proportion. With this 85–15 matching formula, the total amount of Federal funds required for teaching in the public health schools would be $44.2 million, or less than 6 percent of the total authorized for teaching facilities under H.R. 4999.

In relationship to the matching formula, Surgeon General Terry has likened the situation of the schools of public health to that of the regional primate centers to be established to care for monkeys used for research. As he put it, the Federal Government needs both the primate centers and the public health schools to serve regionally and nationally and not locally. Under these circumstances, expectation of large local support is not realistic.

The President's Science Advisory Committee's Panel on Basic Research and Graduate Education has said along the same lines:

"Obviously, when the Government has a particular interest in a particularly expensive installation of more than local importance, it must expect to meet all or nearly all of the cost of the undertaking. There may also be other circumstances in which a particularly good opportunity for progress would be lost if 'matching' were insisted on, and we believe that unmatched grants should be used in such cases." [1]

In framing, H.R. 4999, decision was made to treat dentistry in a category separate from that of medicine. For some reason public health was not so separated. We should like to suggest that it would be more appropriate to also but provisions relating to the public health schools in a separate section of the bill. We propose this separation for several reasons:

(1) The public health schools have recently determined their needs, so that it would be simple to earmark the needed funds in a separate section.

(2) The Congress through the Hill-Rhodes Acts (Public Law 85-544 and Public Law 86-720) has demonstrated its recognition of the special teaching functions and needs of the public health schools. It is a logical further step to provide construction aid to these schools in their special capacity.

(3) In the past there has been some controversy concerning the desirability of Federal aid to medical education. Such controversy has not existed in relation to the public health schools, and it seems appropriate for this reason also to treat them in a separate fashion.

The Superintendents of West Point, Annapolis, and the Air Force Academy are forthright in asking the Congress for building funds. The men trained in these buildings will plan for and administer the defense of our country. Those responsible for their education are also responsible for presenting the needs of their institutions to the only national appropriating authority, the Congress. The Armed Forces Academy Superintendents are forthright in presenting these needs. It is their duty to ask for special treatment.

Likewise we who are responsible for our schools of public health realize full well that we are asking for special treatment in the matching formula for construction of teaching facilities. We are proud to be doing a job so important to the Nation as to justify being put in a special category. We are not ashamed that our graduates working for the public are willing to serve for pay which leaves them scant leeway to contribute to the schools which trained them.

We realize that the foundations and industrial firms have a right to contribute to causes that have the greatest appeal for them, and to focus their attention on private needs, rather than public.

We can understand why the legislature of a State which has a public health school training for the Nation or for a whole region, rebels at increasing greatly the sum it will pay to extend this training from which it receives limited benefit.

We believe that as members of this committee, you will recognize the national importance of our work in training public health leaders. And we have faith that you will so frame the legislation providing Federal funds for building up our public health schools, that we may proceed without delay to tool up for the job ahead.

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[1] The Panel on Basic Research and Graduate Education of the President's Science Advisory Committee, "Scientific Progress—the Universities and the Federal Government," Nov. 15, 1960 (preface by Dwight D. Eisenhower).

Dr. Stebbins will present the special problems of our six private schools, and Dr. Wegman will speak on behalf of our six schools which are in State universities.

STATEMENT SUBMITTED BY DR. ERNEST L. STEBBINS

I am Ernest L. Stebbins, dean of the School of Public Health of the Johns Hopkins University. I am here representing the schools of public health in privately endowed universities. As has already been pointed out there are 12 schools of public health in the United States accredited for postgraduate training for public health personnel. Six of these schools are in privately endowed universities and six are in State universities. The six privately endowed schools are at the following universities: Columbia, Harvard, Johns Hopkins, Pittsburgh, Tulane, and Yale. The support of the private schools is derived primarily from income from endowment supplemented in recent years by research and teaching grants from various sources and in recent years materially supported by research grants and to a lesser extent by teaching grants from the Federal Government.

As previously pointed out, the schools of public health receive students from all parts of the United States and from all parts of the world. A very large proportion of the graduates of the schools of public health go into public service. A recent tabulation showed that more than 95 percent of the graduates of these schools go into local, State, or Federal service. A high proportion of the students are federally sponsored by such agencies as the U.S. Public Health Service, the Army, the Navy, and the Air Force. A considerable proportion of the students are sponsored by our foreign aid agencies. In my own institution more than half of the students are federally sponsored.

As previously pointed out the training of public health personnel is a very expensive form of education, because of the necessary small group teaching and because of the expensive laboratory equipment required. In all of the schools the cost to the university per student is many times the tuition paid by the student or by the sponsoring agency. It has been said, and with considerable basis in fact, that the universities are subsidizing the Federal Government in the training of federally sponsored students. We have been greatly encouraged in recent years by the interest shown by Congress in the problems of the schools of public health. We are indeed grateful for assistance that has been given through appropriations by the Congress to support—in part, at least—research and teaching activities in the schools.

We are greatly encouraged by the introduction of H.R. 4999 which is another indication of the understanding on the part of the Congress of the problems and the needs for trained public health personnel. We strongly approve the principles established in this legislation. We recognize the general need to expand training programs for professional health personnel of all types. We draw our students from the medical schools, the dental schools, and other professional schools after they have completed their basic professional training. In order to fulfill our purpose we must have an adequate supply of these professionally trained people.

We are particularly concerned with the problems of teaching facilities. All of the private schools are desperately in need of improved and expanded teaching facilities if they are to maintain high standards of education and provide the trained personnel that are now needed and will be needed in the future.

A questionnaire sent to the various deans of these schools resulted in the following information:

Columbia

"Our present physical facilities are severely limited. We are housed in the top 3½ floors of the District Health Center in space which was originally planned for a student body of 20 and the necessary faculty. The last full professor appointed to the faculty was placed in an office 7½ feet wide constructed by closing off the last corridor possible under the fire laws * * *. The acquisition of additional facilities is absolutely necessary if we are to increase our enrollment. Our classrooms are so crowded now that at times the regular faculty member in charge of the class has to sit in the doorway if we have a visiting lecturer."

Harvard

"Examples of overcrowding:

"(*a*) Number of students enrolled for 1960–61, 113; number of seats in largest lecture hall, 96.

"NOTE.—The number of master's degree candidates admitted each year is limited to 80 in order to accommodate them in the lecture hall and teaching labora-

tories. We are able to squeeze only 60 students in the biostatistics laboratory, a required course for all master of public health degree candidates.

"(*b*) It is obvious from the above that we have no meeting place large enough for student body and faculty members, nor for professional public health personnel who might otherwise attend training conferences and institutes here.

"(*c*) We lack sufficient rooms for seminars, which provide for the most effective teaching of public health graduate students.

"(*d*) Full-time faculty members, who devote most of their time to teaching and counseling students, are crowded into small offices which are entirely inadequate for interviews and conferences.

"(*e*) We are entirely without—

"Desk space for part-time faculty members and visiting lecturers.

"Desk space for doctoral candidates.

"Dining facilities for faculty or students.

"Parking space for students, many of whom must commute by automobile.

"Auditorium for lectures and institutes involving not only our faculty and students but also Federal, State and local public health personnel.

NOTE.—The school has many requests from public and private health agencies to provide refresher and continuation training in the form of special lectures, conferences and institutes for professional public health personnel from the field. This is an important teaching function which the school cannot develop satisfactorily without adequate facilities.

"(*f*) The school is operating under cramped conditions in two former hospital buildings, neither of which were designed to serve as schools; one of these buildings should be abandoned as obsolescent."

Johns Hopkins

"We are continuing to add inadequate but absolutely necessary space, through the renting of houses and buildings in the vicinity of the school. Our division of mental hygiene is housed in the eastern health district, some six blocks away from the school. Our maternal and child health division is housed in an old hospital buiding, three blocks from the school. A large part of our chronic disease division is housed in rented housing in the neighborhood, some as much as two or three blocks away from the school.

"All of this dispersed space is required for teaching and research, with the major emphasis on teaching. We have some temporary relief through the construction of the new basic science building, which will house some of the basic science departments of this school. However, we have already more than outgrown the space that was so made available."

Tulane

"The School of Public Health at Tulane (designated the division of graduate public health) is small, admitting annually some 30 to 50 students selected ordinarily from some 50 to 74 applicants. The lower figure of 30 students admitted was reached 4 years ago for the first time despite the fact that we had been granting M.P.H. and M.P.H. and T.M. degrees since 1948. Secondly, our programs have been limited—indeed the programs have been of a general nature with particular emphasis upon the basic science aspects, biostatistics, microbiology, and epidemiology. Tropical medicine and parasitology have remained the only areas of specialization. It can be stated quite unequivocally that the principal factor limiting development both in terms of the number of students admitted and the content of the programs offered in floor space.

"Our present and prospective situation is one of expediency and compromise. In addition to the present departmental space (10,359 square feet) some 2,000 square feet is rented in a commercial building nearby to provide office space and space for graduate students, 1,600 square feet of laboratory space is occupied at the U.S. Public Health School Hospital four miles away, and lastly we are dependent for classroom space for the M.P.H. students on the State health department located behind us.

"We hope to rent another floor in the commercial building referred to above for the 1961–62 academic year, mainly to accommodate graduate students. We are trying to develop courses and research in maternal and child health, in public health nursing and in mental hygiene, since these areas represent our most outstanding program deficiencies. We also intend to develop a Ph.D. degree program in biostatistics by 1963. Clearly, this would be enormously facilitated by expanded construction."

Yale

"We need extension and renovation of present building quarters or a new building to include some functional activities housed elsewhere (e.g., part of our epidemiology, occupational health laboratories, considerable expansion of biostatistics offices and laboratories, auditorium. * * *) Our crowding is illustrated by forced use of our main statistical laboratory for four different kinds of classes and seminars during the week; and we carry an assistant professor and three assistants in statistical research in an adjoining room. Our small classrooms are overcrowded. We have as many as three staff people in more than one one-unit rooms."

In the past the private schools have received very considerable help from the foundations interested in public health, notably the Rockefeller Foundation, the Commonwealth Fund, and the W. K. Kellogg Foundation. In recent years this foundation support has decreased markedly. When the foundations are approached for funds they remind us that our graduates go largely into Government service and suggest that we should look to Government for funds to meet our basic needs.

About a year ago the presidients of three of the private universities and the deans of their schools of public health asked for the opportunity to present this problem to the heads of a large foundation. The head of the foundation suggested that they come at lunchtime so that they would get something out of the trip and that was what they got, lunch and nothing more.

Recently a large industry that professes great interest in public health was approached with a rather elaborate presentation of the needs of a school of public health for new facilities estimated to cost in the range of $6 million. The industry expressed great interest in the proposal and said they wished to support this activity. A check for $5,000 was received. Another possible source of funds for the private university is contributions from the alumni. If our schools of public health trained people for private practice or industry, which is often quite lucrative we might hope to receive significant gifts from our alumni, but being Government servants for the most part our alumni give regularly but in small amounts.

On the part of the private schools of public health it is fair to say that if we are to make progress in building needed teaching facilities the program needs to be based on our ability to raise matching funds estimated at about 15 percent of the cost. It would be unrealistic to expect that we can raise a much larger proportion. We would like to strongly recommend, therefore, that the schools of public health be given special consideration in the establishment of the matching formula. We believe that this can be justified on the ground that the schools of public health are regional or national in character. We serve the Nation, just as the military academies serve the Nation in the training of personnel for the defense of the Nation against agression from outside powers. We in the schools of public health train personnel for the defense of our Nation against disease and disability.

STATEMENT SUBMITTED BY DR. MYRON E. WEGMAN

Gentlemen, I am Myron E. Wegman, dean of the School of Public Health of the University of Michigan, one of the six schools of public health located in State universities. These are the University of California at Berkeley, the University of California at Los Angeles, the University of Minnesota, the University of North Carolina, the University of Puerto Rico, and the University of Michigan. My testimony will be devoted largely to some special concerns of these schools but before entering on these I should like to say a few words on those portions of H.R. 4999 covering schools of medicine, dentistry, and osteopathy. You have heard of the board and multidisciplinary character of public health and of how it includes physicians, dentists, nurses, engineers, statisticians, nutritionists, and many other professional groups. Nevertheless I must emphasize the key roles played in public health activity by physicians and dentists. Improvement in their education is of vital import to public health both because of the daily work of all physicians and dentists and because of the urgent need to have an adequate pool of qualified men who may be attracted to public health as their specialty. I, thus, strongly support both the construction and scholarship provisions of the bill regarding physicians and dentists. Our own highly satisfactory experience with the limited number of traineeships

schools of public health have had convince me of the desirability of extending this principle.

The problems of the State schools of public health vary in some degree because of the special problems of the States in which they are located, but similarities outweigh the differences since all the schools serve a much wider area than their own States. This is true also of the private schools; and, in this connection, I point with pride to the close cooperation among the private and publicly supported schools of public health. Working together has been a longstanding feature that has led to higher standards, new means of instruction, a broader base of service to the public and to the profession, exchange of staff, and a constant search for curriculum revisions to keep abreast of the dynamic changes taking place in community health needs.

SPECIAL CHARACTERISTICS OF THE STATE SCHOOLS

In illustrating these I shall, perforce, refer specifically to my own university, the situation I know best. The remarks, however, will apply equally well to the other schools. State schools face problems of particular magnitude in respect to their need for space and facilities. State universities are by their very nature large institutions and in recent years pressure of applicants has sent total university enrollment constantly higher. Thus, these universities offer a fertile area for recruitment of urgently needed new personnel in public health, a need the Congress has recognized in the establishment of public health traineeships. More adequate facilities would allow the schools of public health to play a larger role in university affairs and thus to be a more important influence in attracting bright young minds to the task of community health service for which professional education in public health is essential. Dr. Leavell has emphasized the very broad base of the public health profession.

It has been truly pointed out that public health is unique in having a solid foundation both in the social sciences and the natural sciences. As a natural and desirable consequence the School of Public Health at the University of Michigan offers a wide variety of programs to college graduates who have had adequate preparation in biology, chemistry, physics, and the social sciences. The study programs may concentrate on public health administration, public health dentistry, medical care administration, health education of the public, public health nursing, nutrition, maternal and child health, biostatistics, epidemiology, public health laboratory practice, environmental health, radiological health, industrial health, and other specific fields. Appropriate emphasis is given to the problems of chronic disease, mental health, atmospheric and water pollution, and community development as well as to the challenges of the newer viruses, toxicants in foods, and to the devastating problem of accidents. The variety of training programs that need to be given complicates the problem of space and facilities. Although most students take certain basic courses together, they must be split up for some of the more specialized work.

State legislatures have in general been sympathetic to the need for basic budgets for the schools of public health, but they have been very hesitant, not to say resistant, to the idea of the expanded capital outlay necessary for increasing facilities. Schools with so high a proportion of students from out of State have a lower priority for scarce funds.

Furthermore, the tremendous increase in pressure on the universities for undergraduated training is taxing resources to the utmost. In the case of the University of Michigan, for example, shortage of funds has put the total construction program of the university almost 5 years behind schedule. We have been told, frankly, that the recognized needs for expanded facilities in the School of Public Health cannot be satisfied from State funds in the immediate future. On the other hand, I can report with great satisfaction that in a recent long range plan on future development of the medical center the special importance of public health was clearly recognized. A very desirable location has been designated for our urgently needed expansion.

OUT-OF-STATE STUDENTS

The School of Public Health at the University of Michigan has the highest percentage of non-Michigan residents of any school or college in the university. This year the non-Michigan residents total 75 percent of the student body. Despite the very much higher fees paid by out-of-State students, these fees do not come anywhere near paying the cost of instruction. It is understandable, there-

fore, that the State legislature is reluctant to expand further the State's contribution to what is, in effect, a national school.

GENERAL FINANCIAL PROBLEM OF STATE UNIVERSITIES

The State of Michigan has a distinguished record and interest in higher education. There are at present nine State-supported universities in Michigan. The State funds which go to higher education are substantial.

Nevertheless, the needs have outstripped the funds and the present situation of the universities is desperate. Last spring, for example, the State legislature granted only a token budgetary increase to the University of Michigan and suggested that student fees be raised again. These had been raised several times in the preceding years and the board of regents declined to raise them further. The regents contended that further increases in tuition would serve only to keep deserving and capable young men and women out of university education. This meant a budget which "stood still" despite rising costs, with resultant loss of a disturbing number of highly valued faculty members to other institutions. Considering the truly national character of the schools of public health the only logical recourse is to extend the use of Federal funds to support more nearly the actual costs of education.

The committee has had presented to it a table showing the conservative and realistically calculated space needs of all the schools, including the State schools. I shall not rehearse for you the many instances of serious overcrowding, doubling up, insufficient classroom space and serious teaching handicaps which have plagued us and which have been reported from all the schools. I would, however, pay tribute to the measure of improvement which has been made possible because of the availability of Federal funds for research construction. These have allowed considerable improvement in facilities for investigation and in some instances, furthermore, have allowed space now inadequate for research purposes to be converted to teaching use. I should like at this time, therefore, to endorse strongly the section of H.R. 4999 dealing with construction of research facilities. Research is a vital component of the work of any school, but adequate classroom, seminar, and office space is essential if the schools are to carry out satisfactorily their basic function of teaching.

CONTINUING AND POSTGRADUATE EDUCATION

An important aspect of the work of State schools relates to postgraduate institutes and courses for practicing public health workers and for ancillary groups allied to public health. This type of development recognizes that, on the one hand, with the great backlog of persons who have never had formal education in public health and, on the other, with those whose education dates back sufficiently far that they are not always completely abreast of new developments, refresher and review courses are essential.

Earlier in my career I was professor and head of the Department of Pediatrics of Louisiana State University Medical School and pediatrician in chief on the L.S.U. Service at Charity Hospital in New Orleans. There I learned the need of the rural medical practitioner for constant refresher work. In clinical fields it is possible to carry out a substatial amount of postgraduate teaching in local hospitals and clinics. In the field of public health, however, the material to be covered is of such a nature that the specialized equipment and specialized resources of the university environment are uniquely necessary for success. With increased facilities it would be possible to expand these courses considerably and reach large numbers of health officers and other health workers now employed by the cities and States. During the academic year 1960–61 more than 1,000 public health workers attended short courses at the University of Michigan, for periods from 2 days to 2 weeks. Each course, however, has necessitated considerable shifting around of classes with loss of time and efficiency for all. With additional classroom and teaching space we could expand and improve our efforts to meet more nearly the insistent demands for continuing education from people who are on the job.

KEEPING PACE WITH NEEDS—UNIVERSITY OF CALIFORNIA AND UNIVERSITY OF NORTH CAROLINA

A specific instance from the University of California at Berkeley may serve to illustrate another difficulty in calling upon the States to support further increases. In 1955 the School of Public Health at the University of California in Berkeley occupied its new public health building with an area of 43,000 square feet. While this building met the needs nicely in 1955, in the short interval since then the graduate student body has doubled. Thus, despite a recent new building the School of Public Health finds itself forced to double up faculty members and to rent space outside the building for both instruction and research. Indeed there are several needed teaching programs which cannot be started simply because there is not space for them.

The University of North Carolina is now building a new school but they know already that it is only one-half as large as they need. They are happy with the prospect of new quarters and recognize that in relation to the endless difficulties of the past few years, the new building will seem almost luxurious. On the other hand, they know that they will be overcrowded before they move in. Further support from State funds is considered completely out of the question.

INTERNATIONAL ASPECTS

Professional education in public health has served a unique function in developing close ties with similar schools in other countries. This has served to strengthen professional contacts and to facilitate interchange of ideas in a number of fields of science as well as in the field of public health. As has been emphasized to this committee many times, disease knows no boundaries. Public health advances have constantly brought with them the necessity for thinking in broad terms. The schools of public health are of particular importance because their very recency of development has facilitated a mutual understanding and interrelationship of high degree.

I have had extensive personal experience with the international scene. Before assuming my present post at the University of Michigan, I was secretary general of the Pan American Sanitary Bureau, which is the secretariat of the Pan American Health Organization and also the Regional Office for the Americas of the World Health Organization. During the 8½ years that I worked for the Organization I had close contacts with all the schools of public health in Latin America and to a more limited extent those in Western Europe. I should point out that in these other countries, many of which modeled the scientific content of their professional public health schools on those in the United States, it has been accepted without discussion that the financing of professional education in public health is basically a national government function. Governmental responsibility is perhaps more obvious in areas where high levels of communicable and other diseases exist and where organized preventive measures are more urgent. Schools of public health in the United States are constantly being asked to play a more active role in collaborating with schools of public health in other countries. This collaboration, which brings a great deal of mutual benefit, involves much interchange of personnel. In all of the schools of public health in the United States there are persons from abroad, varying from fellows to visiting scholars of high eminence for whom adequate working space must be provided. I believe I may say very proudly that there has been more fruitful collaboration in the health field and more improvement in international understanding in this field than any other. In this way the schools of public health, through devoting a part of their space and facilities to receive students and scientists from other countries, have contributed in high degree to improvement of the prestige and influence of the United States.

Dr. Leavell has emphasized the importance of students from abroad in the private schools. The University of Michigan, as a State school, has a broad concept of its responsibility to the Nation and to the world; some 15 percent of the total enrollment at the school of public health are from abroad. Since the founding of the school in 1941, 371 students from 56 other countries have received graduate preparation and degrees in public health. Similar figures could be cited from the other schools.

A special case should be noted for the University of Puerto Rico. This school performs a unique function internationally since it carries on instruction in Spanish. In this way it is able to serve the Spanish-speaking countries of the Americas and has attracted an increasing number of qualified students. With renewed and expanded interest in joint efforts of the countries of the Western Hemisphere to improve health the number of students is likely to improve. As these return to their own homes it is important that they, as well as the students in the schools on the mainland, carry away a picture of a quality of education of which the United States may be proud.

PROBLEM OF MATCHING

State schools are in a difficult position with regard to matching Federal aid. Their basic support is from the State and the usual donors of endowments, therefore, consider the needs of State schools to be less urgent than those of the private institution. The alumni of the university, usually an important source of funds, cannot contribute substantially. Graduates of schools of public health are, in the very nature of their work, employees of government, community, or eleemosynary organizations. Their incomes are too low to permit the level of giving which, in their loyalty to the university, they would like to reach.

State legislatures, for the reasons cited above, are loath to appropriate State funds for construction, particularly during the present period of ever higher costs.

A 50-percent matching requirement would be exceedingly difficult for the State schools to meet. A figure of 15 percent would be far more realistic and consistent with the contribution schools of public health make to the national health.

SCHOOLS ARE NATIONAL AND INTERNATIONAL

May I close by repeating the observation that our schools of public health, State supported and private, are in the broadest sense of the words truly national and international. Their service to the country and to the world, the need for maintaining standards of education of which the Nation can be proud, make it essential that legislation be enacted to provide these urgently needed educational facilities.

The CHAIRMAN. Dr. Leavell, you may proceed.

Dr. LEAVELL. Thank you, sir. This committee, as all of us are very well aware, has been extremely helpful and understanding of the special problems of the schools of public health, and we appreciate your calling particular attention to Mr. Rhodes' interest, because he has made a special point of studying our problems. We want to say at the outset that as public health people we are very interested in all of the provisions of this bill. We are concerned that the Nation have a sufficient number of doctors, both of medicine and osteopathy and dentists, and this is a matter with which every public health man takes great concern.

For example, when the Congo incident came up a year and a half or so ago you may be aware that Russia offered to send several thousand doctors to the Congo. It is fortunate that we did not, we would not have been able to send them. We are in the doctor importation business. Some of you may have seen a television program on a national hookup which showed the Cambridge, Mass., city hospital. The doctor who was sort of center of the scene was a foreign doctor. We were not able to get sufficient numbers of American doctors and he reported on this national television that he was working 120 hours a week to care for the patients in this hospital. So you can see that we have an interest in this as public health people.

We should like to point out several major points. One, that public health is different from the general practice of medicine or dentistry. Second, that the schools of public health have certain particular problems that are rather peculiar to them. This committee is familiar to a considerable degree with this; that there is a need for additional training of public health people. I shall comment about some information that our schools gathered for the Bureau of the Budget this past December, and then Dr. Stebbins could speak about the private schools, of which we have six in the country, and Dr. Wegman about the State schools, of which we also have six.

We find, in talking with people about public health, that the subject is not well understood and it is more for the record that we now speak than for this committee, because we do believe that the members of this committee understand our problems.

You have had some discussion about how long it takes to prepare an ordinary doctor. Well, add 2 or 3 years to that for a public health doctor and you have a total of about 15 years for a public health man to prepare himself to work as a specialist in medicine.

Our work is post-postgraduate. We should also point out that our schools train not only physicians but also nurses, health educators, and the whole public health team that works in the community environment.

Another difference is that essentially all of our graduates are Government servants. We are in a way very much like the Armed Forces academy.

Our people are concerned with working at the organized community level, working with groups of people rather than with individuals, being family doctor to the community.

We are concerned essentially to the greatest degree that we can be with prevention. As an example, one of our communities in Massachusetts has set up a glaucoma detection program. About 2 percent of the people over 40 have glaucoma, which is an increased pressure within the eyeball. We have estimated that if the Members of Congress were in this respect like the rest of the population that probably there would be 10 Congressmen with glaucoma at this time. We are sure that there are none with myopia, which is nearsightedness.

We also have the international problem where about 25 percent of our total students come to us from foreign countries to be trained, and we also are training people from this country to go out and work in international health. One of Dr. Stebbins' associates who is here today has just returned from 6 years of doing a very splendid job of being responsible for our technical assistance program in India, Dr. John Hume. We have to meet the new problems that arise, the accidents, the radiation hazards, the air pollution that is getting worse instead of better, the increasing pollution of water, and all of these new things.

Now, why is it that our schools of public health have special financial problems?

Most of our work must be given in a single year, and we have all of these different disciplines—medicine, nursing, social work, engineering, education, and so forth, to bring in. We also have the students with these different backgrounds and people coming from different countries, which means that we must do our teaching in a very concentrated way, unfortunately an expensive way, but we believe that it is valuable.

Our State universities, and Dr. Wegman will go into this, are having heavy calls upon them with our 12 schools of public health. We find that only about 25 percent or so of the graduates will work in the State where they are trained. Private foundations which used to be very helpful have said that most of your people are Government workers, you must go to Government, we helped you to get a start 40 years ago, now we cannot do this any more.

Our graduates are not in high-earning positions and we are not able actually to count on much in the way of alumni contributions.

In 1958, a conference was held, called by the Surgeon General, to examine the need for training in public health. They found at that time that there were 22,500 people now working in public health who needed training at the graduate level and if we took and looked into the immediate future there would be probably 6,000 more, making more than 28,000. Not all of these would need to go to schools of public health, but the leaders do need to go to those schools.

We have estimated that if the construction portions which do apply to the schools of public health in this bill were carried out we could increase our present enrollment from 1,200 to 30 to 50 percent more than that. The Public Health Service has estimated that to provide funds for construction for the existing schools some $34 million would be needed. If there should be three new schools, which perhaps would be the appropriate number, $18 million more would be required for them.

Last December, as we pointed out, the Bureau of the Budget inquired into the whole matter of Federal assistance of various kinds to the schools of public health. We asked each of our members to look at their situation and see what they thought would be possible for them in the way of matching funds for educational training facilities construction. We think we can perhaps continue to meet the 50-percent matching on research facilities, because industry and others are interested in that. We are quite convinced that we cannot meet this percentage for teaching facilities, and most of the schools feel that probably 15 percent would be about as much as they could meet. So that the idea of some special treatment for schools of public health is one which we feel we need to present here. We are not ashamed of this any more than the people responsible for the Armed Forces academies would say that we are training Government servants, we must ask for special treatment. We feel we would be derelict in not asking for special treatment. We think the country needs more public health people, they are there waiting to be trained and we would like to do the job of training them.

I should like to just call to your attention one comment which the Surgeon General made when we likened our situation, when we brought our special needs to him, Surgeon General Terry said, and I hesitate to get this in the record, but he likened the situation of the schools of public health to the regional primate centers to be established to care for monkeys used for research. As he puts it:

> Federal Government needs both the primate centers and public health schools to serve regionally and nationally, and not locally. Under these circumstances the expectation of large local support is not realistic.

I would like also to quote from the President's Science Advisory Committee Panel on Basic Research in Graduate Education which said:

> Obviously when the Government has a particular interest in a particularly expensive installation of more than local importance, it must expect to meet all or nearly all of the cost of undertaking. There may also be other circumstances in which a particularly good opportunity for progress would be lost if matching were insisted on, and we believe that unmatched grants should be used in such cases.

We are not asking, sir, for unmatched grants. We certainly want to do our part to the extent that we can, but we do believe that we need special treatment here.

I think perhaps now if Dr. Stebbins could speak, particularly for the private schools, and Dr. Wegman for the State schools.

STATEMENT OF DR. ERNEST L. STEBBINS, DEAN, SCHOOL OF HYGIENE AND PUBLIC HEALTH OF THE JOHNS HOPKINS UNIVERSITY

Dr. STEBBINS. I appreciate the opportunity to present the problems of the private health schools of the country. As you pointed out, I am dean of one of these schools, the Johns Hopkins University School of Public Health. Prior to that time I was first a county health officer, then an assistant State health officer, and finally I was health officer of the city of New York. I mention this merely because I know from this experience the great difficulty that our health officers have in providing the services that are necessary with the inadequate number of trained public health personnel available.

We in the schools of public health are attempting as best we can to provide these trained public health workers. I will speak particularly of the six private schools which are located in Columbia, Harvard, Johns Hopkins, Pittsburgh, Tulane, and Yale Universities.

These private universities derive their income and support primarily from endowment and this has been supplemented in recent years by research and teaching grants from foundations and in recent years by teaching grants from the Federal Government which this committee recommended, and is being provided to all the schools of public health.

As has been pointed out, our students come from every State in the Union. They come in our own institutions over the years from as many as 88 foreign countries. A large proportion of our students come from the U.S. Public Health Service, the Army, Navy, and Air Force. At the present time, in my own institution between 60 and 70 percent of our students are from these Federal institutions, or federally sponsored.

The Public Health Service, as you know, has been administering a program of traineeships in public health, authorized by the Congress. I am informed by the administrators of this program that they have more than twice as many qualified applicants as our present funds will provide for, indicating that there is need for greater teaching facilities if we are to train all of the applicants that would like to go to a school of public health—qualified applicants.

We are greatly encouraged by the introduction of H.R. 4999, which is another indication on the part of Congress of the recognition of the problems and the needs for trained public health personnel. We strongly approve of this bill, and we want to urge its very serious consideration. We are particularly concerned with the problems of the provision of funds for construction for teaching facilities because all of the private schools, as I believe all of the schools of public health, are extremely limited in their physical facilities. This means that we cannot maintain as high a standard of training as is desirable. It also means that we are limited in the number of students that can be admitted. A questionnaire sent out to all of the private schools came back with almost uniform answers, that there is extreme crowding of their present students and the faculty of every one of the schools. There is pointed out in every instance that increasing enrollment was an impossibility without increased teaching facilities. Many of the schools have 50 percent or more students than can be accommodated in their major teaching laboratories or in their main lecture halls. Many of the schools are very definitely limited in the number of students that they can admit and this is largely because of inadequate teaching space.

In the past, private schools have received very considerable help from foundations interested in public health, notably the Rockefeller Foundation, the Commonwealth Fund, and Kellogg Foundation.

In recent years this foundation support has been markedly decreased. About a year ago the presidents of three of the private universities, and the deans of their schools of public health, asked for the opportunity to present this problem to the head of a very large foundation. The head of the foundation informed the presidents that they were not primarily concerned with training in public health, they would be glad to have them come, but would they come for lunch, so that they would at least get something from the meeting, and that is exactly what they got out of the trip: a good lunch and nothing more.

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Recently a very large industry that professes great interest in public health was approached by one of the private schools of public health with a rather elaborate presentation of needs for future expansion of teaching facilities, an expenditure in the range of $6 million. The industry expressed great interest and said that they would like to support this activity and a check for $5,000 was received.

Another possible source of funds for the private universities is the contributions from alumni. As Dr. Leavell has pointed out, our alumni are almost exclusively public servants receiving relatively small salaries, and they are not in a position to contribute largely to the schools of public health.

I would just like to give you a little personal incident. Just 2 weeks ago there was a meeting of the Johns Hopkins School of Public Health alumni in Tokyo, and each one of the members of that alumni association contributed what to him was a rather significant sum: 3,500 yen. There were 10 alumni, 35,000 yen. When that arrived in U.S. dollars it was $94.50.

I would like to also point out, as has been mentioned by Dr. Leavell, that the schools of public health are in many respects like the military academies. The military academies train the personnel to defend this Nation against aggression from outside. We in the schools of public health trian personnel for the defense of this Nation against disease and disability. Although we do not in any realistic way have assurance we can match dollar for dollar Federal money for teaching facilities, we do believe that we can raise private funds, perhaps 15 to 20 percent of the cost of our needed facilities. We hope that you will give serious consideration to a formula that will take these needs and the role of the schools of public health into consideration.

Thank you, sir.

The CHAIRMAN. Thank you, Doctor Stebbins.

STATEMENT OF DR. MYRON E. WEGMAN, DEAN OF THE SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF MICHIGAN

Dr. WEGMAN. Mr. Chairman, I am Myron E. Wegman. I wish first to thank Mr. Dingell sincerely for the very kind words he said about me. I might add only that after direct experience in county, city, and State health departments, my international experience gave me a chance to see problems of professional education in public health in many parts of the world, notably in Latin America. In those parts of the world the general tendency is for all of the schools to be State schools. Here in the United States half of the schools are State schools. These are, as listed in my statement, the two in California—Los Angeles and at Berkeley, the University of Minnesota, the University of North Carolina, the University of Puerto Rico, and the University of Michigan. These schools have certain problems which are given in more detail in my statement and which I think can be typified by those at the University of Michigan. The State of Michigan on the whole, I think, has been very generous in terms of higher education. Our university is not satisfied with our allocation from the

State legislature, but we recognize that the legislature now supports nine State universities. All these schools and colleges in the State universities naturally tend to serve first citizens of the State of Michigan, and this is true in the other State schools as well. On the other hand, the school of public health is unique among the colleges and universities in that 75 percent of our student body are from out of State. The State legislature finds it a little difficult to contemplate large increases in appropriations for a school which is serving much more on a national basis than the other schools and colleges of the university.

A similar observation might be made in regard to our foreign enrollment. We are one of the smallest schools on the campus of the University of Michigan, yet we have the highest proportion of foreign students of any of the schools on the campus. Again, there is question about the responsibility of the State for the education of people from abroad and the underlying support for them. An interesting fact to me in the time I have been at the University of Michigan is evidence of the support from the university administration despite the fact that we are serving so many out-of-State students. Despite the fact that the school is one of the smaller schools, the interest of the president, vice president, and the administrative officers in helping the school of public health has been very heartening. I might say that our university administration is strongly interested in and support all parts of this bill, which is before you now.

One of the phases of public health education which interests our school particularly is that having to do with continuing education. Dr. Leavell has pointed out the number of persons who are lacking in basic formal preparation for the profession of public health. We have tried over the years to develop an extensive program of continuing education with courses for such persons as public health administrators, water plant operators, public health nurses, statisticians, nutritionists, all of the various disciplines of public health. We have recently had one for dental public health administrators. We are having one within 2 weeks on hospital safety, in collaboration with our hospital and medical school.

These are short courses designed to keep the persons who are in the practice of public health up to date. We find considerable difficulty in carrying this program out at present within our facilities because every classroom is used practically all the time. It means moving people out, using space not designed for classes in order to accommodate this part of the work that I believe has great importance and holds great promise.

I should like to cite illustrations from two or three of the other schools to support the argument with regard to space. First, the University of California opened a new building for public health, some 3 years ago. They already are so crowded that they are in rented space outside of the school of public health for a large part of their training program. The University of North Carolina is finishing a new building for the school of public health right now, and

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they know that they are going to be crowded before they get into it, that they have to maintain some of their older and unsuitable space.

Finally, an illustration of importance is the University of Puerto Rico. This university is unique among the schools of public health in that it carries on its instruction in Spanish. This is because it recognizes that one of its major functions is not only to train the public health workers of Puerto Rico, but to reach out to Latin America as an important bridge in the international program of the educational institutions of this country.

More than half of the students at the University of Puerto Rico come from Latin America, yet they are in very seriously crowded and inadequate quarters. I submit that it gives anything but a good impression to students from abroad who are coming to the United States for training to go back, having had more crowded study conditions than had they gone perhaps to the University of Chile or University of São Paulo.

I would underwrite, sir, what Dr. Leavell said about matching with regard to our own State university. There are problems in regard to a 50-percent formula. A far more reasonable figure for us, and one that I think we can meet, is a matching figure of 15 percent on the instructional program. I think most of the other points that I had in my statement have already been covered, Mr. Chairman, and I shall not take more of your time at this time other than to repeat I think in this case the State schools are national and international schools.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, Doctor. We are very glad to have these statements on behalf of each of you.

Mr. Macdonald, do you have any questions?

Mr. MACDONALD. I do not have any questions. I have one short observation. The Massachusetts delegation in Congress, Speaker McCormack, and members of the Rules Committee and myself, had the great privilege of visiting the School of Public Health at Harvard, and although we have all been familiar with it, I think that none of us had personally seen it in action. I would suggest that we adopt the same forwardlooking program that the Harvard school did. I think it was a great eye opener. I can only say that you have understated your case rather than overstated it, especially in the field of international relations in Latin America. I want to compliment all of you on your statements today.

The CHAIRMAN. Mr. Younger.

Mr. YOUNGER. I want to add my compliment to the three papers on the subject. We in California believe in these schools, as evidenced by the fact that we have 2 of the 12 schools in our State. I think they have been rather well supported by the State. I have no question but what they could raise the matching funds.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Dingell?

Mr. DINGELL. Yes, Mr. Chairman. Thank you very much.

I am interested in the testimony you gentlemen have given today. There are several points I would like to go over with you, if I might.

First of all, as regards cost, would you say that the schools of

public health are high- or low-cost institutions of learning as related, let us say, to other institutions; that is, other institutions for teaching of medical, and so forth, subjects?

Dr. LEAVELL. I would say they are high cost, probably more expensive than most of the other schools of the university.

Mr. DINGELL. Would you be able to give us an idea of the cost per student in a school of public health as opposed to an ordinary school of medicine?

Dr. LEAVELL. There is some variation among the schools. The average would be close to $5,000 per student per year.

Mr. DINGELL. Would it run above or below that in some other institutions?

Dr. LEAVELL. It would be above the medical schools generally; yes.

Mr. DINGELL. Now, that would be true in regard to medical school. Now, how about with regard to the schools of public health? How much per student does it cost to operate them?

Dr. LEAVELL. This was the $5,000 figure.

Mr. DINGELL. How about medical schools? Would they run above or below that?

Dr. LEAVELL. They would run below that.

Mr. DINGELL. What is your tuition per student, roughly, in schools of public health?

Dr. LEAVELL. It varies from school to school. I think the maximum is about $1,500. In some of the State schools—what is your tuition?

Dr. WEGMAN. Our in-State tuition is $550 and out of State is $1,050. I think the University of California has about the lowest tuition of the group. I think they are down in the neighborhood of $400, or $450, but that is the minimum.

Mr. DINGELL. You run a very substantial deficit per student.

Dr. WEGMAN. Yes, sir.

Mr. DINGELL. Could you give us an idea, roughly, of what that is?

Dr. LEAVELL. The question of whether you take the deficit, the difference between the amount of tuition and the actual cost of training the student, we have computed this from time to time and the tuition comes to something like 11 to 13 percent of the total cost.

Mr. DINGELL. The balance of this, you indicated, comes from endowment appropriations from the States, Federal assistance, and so forth.

Dr. LEAVELL. Grants from industries, and so on.

Mr. DINGELL. You gentlemen alluded to the Rhodes bill. I am sure it was very helpful. But, obviously, you have found some shortcomings and deficiencies in it with regard to the schools you speak for today.

Would you want to elucidate on that?

Dr. LEAVELL. I am sure that every one of our deans would say that this was an absolute lifesaving measure. You will recall that this committee changed the authorization at the last session of this Congress from the original $1 million per year to be divided among the schools to an authorization of $2½ million per year.

Mr. DINGELL. This is limited to research, though, is it not?

Dr. LEAVELL. No; this is teaching.

Mr. DINGELL. It does not go to research?

Dr. LEAVELL. It does not go to research.

Mr. DINGELL. How does this do with regard to the needs of the school? Obviously, if there is no need with regard to schools, then there is no need to have schools of public health included in H.R. 4999. I would like to have your comment on that.

Dr. LEAVELL. The schools of public health, we should say, are included in H.R. 4999 only on the construction part. No funds for fellowships are included in H.R. 4999.

Mr. DINGELL. There are no fellowship funds in H.R. 4999?

Dr. LEAVELL. Not for schools of public health. That is handled by a different act. So that our personal interest in H.R. 4999 as schools is in the construction phase.

Mr. DINGELL. You get your operating and teaching money under the Rhodes Act, and, of course, you come in under the Research and Facility Act.

Dr. LEAVELL. Yes.

Dr. WEGMAN. I might interrupt to supplement this by saying that it is this very experience we have had with the traineeships under the Public Health Service Act that has made us feel that the idea of support for students in this kind of work is an exceedingly helpful one in getting better students and getting them along.

Mr. DINGELL. You also indicated to us that a substantial number of your students are foreign students. Could you give us an idea of the number of foreign students who come from this country?

Dr. LEAVELL. About 25 percent of the total are foreign students.

Mr. DINGELL. What percent of your students are govenmental students in the sense that they would be, let us say, sent to your schools as a part of the Government training program, either by the Federal Government or by State or local government?

Dr. LEAVELL. This varies some from school to school.

Dr. Stebbins?

Dr. STEBBINS. We have between 60 and 70 percent that are federally sponsored students.

Mr. DINGELL. Are actually federally sponsored students?

Dr. STEBBINS. From the Public Health Service, Army, Navy, Air Force, and AID fellowship training program.

Mr. DINGELL. Would this be more or less uniform throughout the country?

Dr. LEAVELL. That would be true. Perhaps a little more in some of the schools.

Dr. WEGMAN. I might cite a figure: In terms of tuition income, roughly a little less than one-sixth of the tuition that we received last year for students in the school of public health was paid by the students themselves. The rest was paid by various governmental agencies and other sponsors.

Mr. DINGELL. Now, when the Federal Government sends a student to the school of public health, and this is speaking only to the general thing, do they furnish the full cost of training of the student or do they pay only the regular tuition?

Dr. LEAVELL. The regular tuition.

Mr. DINGELL. Which leaves the school of public health with a substantial deficit to recover from its own resources, either from the private endowment in the case of private school or from the legislature and other sources in the case of public institutions.

Dr. LEAVELL. It was to meet this need that the Rhodes Act was established.

Dr. STEBBINS. It is established that the distribution of the funds appropriated under the Rhodes Act shall be distributed to the schools in proportion to the federally sponsored students they have enrolled.

Mr. DINGELL. I wanted to bring out the Federal and the public interest. Just briefly for the record, would you give the committee a little bit of an insight into the nature of the problems that public health schools train people to face; for example, outbreaks of hepatitis, water pollution, and things of that sort? Could you do that for us?

Dr. STEBBINS. We will be glad to do that.

Mr. COLLIER. To get this business of public health firmly in the mind of the layman, as I understand it, actually you deal with community health rather than with the health of the individual, as such; is that right?

Dr. LEAVELL. Yes.

Mr. COLLIER. In speaking of students that come to the various public health schools, is it not true that in addition to the funds that are paid under various programs in the U.S. Public Health Service, there are many local jurisdictions that pay fees to their health officers for advanced training? In fact, do not many of these continue to receive their salaries while they are getting this advanced training?

Dr. LEAVELL. Not many. There are certainly some, and this number has been reasonably constant over the years. It is a relatively small proportion of the total.

Mr. COLLIER. In speaking of the 3 additional years to which you refer, Doctor, is it not true that a very high percentage of those getting the additional training, after they once have become a public health officer in some phase of public health, that they are in fact employed while they get this additional training?

Dr. LEAVELL. They, of course, are not employed while they are in the school, although there are a few local departments and State departments that continue their salaries. Mostly they go on to a training stipend which is at a lower level.

It certainly is true that if they take a public health residency, training on the job after the school of public health is over, they will get a salary which will usually be at, again, something like five or six or seven thousand dollars a year, perhaps as a resident. This is about a 2-year program after the school of public health is completed while they are preparing themselves for certification as a specialist in public health. This applies only to the physicians.

Mr. COLLIER. So, actually, they do not have any acute financial problem if they are getting six to seven thousand dollars a year.

Dr. LEAVELL. That is true, but you must bear in mind our average student is 34 years old and he has a family, so this is not a munificent sort of thing for a man who has had 15 years of training, or 13 years, up to this point.

Dr. WEGMAN. Is it not true that that figure would apply to physicians? It would not apply to the other students.

In our own school, for example, we have a relatively smaller proportion of our students who are physicians, but among the engineers, nurses, statisticians, and others the training stipend is $200 or $250 a month.

Mr. COLLIER. Now you are geting in the very area I was leading into. We are getting into the training of sanitarians who are in fact not doctors, as such, nor medical students.

Dr. WEGMAN. They are not medical students; no, sir.

Mr. COLLIER. Yet, we are embracing these in this program. We are talking about nurses getting advanced public health, a woman who may be a registered nurse but who now is moving into the field of public health and therefore needs public health training. We are getting into an area where we are talking now about people who deal with water sanitation on a broad scale.

We were talking earlier about this business of this Nation being an exporter and importer of doctors.

I put this not in the light of what need may exist because of conditions around the world today as they are in all of the many, many backward nations, but have we not actually become an exporter of public health doctors by comparison to what our status was 20 years ago with the number of public health doctors who were trained here and abroad?

Dr. LEAVELL. Dr. Wegman has been with the World Health Organization. I think he ought to speak about this.

Dr. WEGMAN. I am not quite sure I understand the question clearly, Mr. Collier. I would say this: that there are relatively few U.S. citizens who are trained in public health who are working abroad other than in the programs of the AID or very few in the World Health Organization. But there are relatively larger numbers of students from other countries who have received their training here, citizens from other countries.

If you mean exporters in the sense that we have brought people in and exported the training, I would agree. But as far as exporting our own citizens to work abroad, this is true only to the extent that they have been used as advisers on a temporary basis.

Mr. COLLIER. Well, to clarify it in my own mind, I would like to see some figures on the number of public health personnel and doctors that we exported, so to speak, 20 years ago as compared to what it is today.

Dr. LEAVELL. Exclusive of missionaries, it is estimated that there were probably fewer than 25 people, officers of the U.S. Government, who were engaged in international public health in 1940.

When the Institute of Inter-American Affairs got underway in about 1942–43, Campbell estimates that there were about 150 employed, being assigned to the Latin American countries, the largest group of about 70 being assigned to Brazil.

Dr. Campbell estimates that there are now some 600 health personnel (by no means all physicians) overseas with the AID agency plus the Public Health Service.

Mr. COLLIER. I have just one other question. It may be a difficult one to answer specifically but it would seem to me that we are going to have some limitation in establishing the program as embraced in the legislation before us. Therefore, I question seriously whether we could project the best possible program in the field to cover public health based upon the need of public health personnel abroad. In other words, I think you gentlemen would be the first to agree that the problems of public health abroad are so completely vast that we could never hope as a nation to meet these. Therefore, it would just seem feasible that there will be some limitation as to what percentage of the public health people that we train here should be trained with the thought of sending them abroad.

Dr. LEAVELL. If I gave the impression that we were advocating sending large numbers of people abroad, I was in error there. I did use the illustration of the Congo and compared this to the situation that we now currently are importing some 7,000 or more foreign doctors to run our own medical care services in this country and compared this to the Russian situation where they actually were in a position to make available a couple of thousand doctors to the Congo if they had asked for this.

I do not think we should send a couple of thousand to the Congo but we are in a quite different situation than that.

Mr. COLLIER. I may be pleading some ignorance with this next question. To what extent is internship in the broad trainee program of this type of physician required in equipping a public health doctor for an assignment?

Dr. LEAVELL. I would say from my own experience that there are very few public health men that I have had contact with that did not have an internship or residency. They felt very much at a loss. I had one as my assistant when I was a local health officer who had gone in without this. After 10 years he said, "I just am not able to talk on an equality with the other doctors in the community. I am going to stop and take an internship," which he did.

We would say it would be very foolish for a man to go into public health work without that.

Dr. WEGMAN. I can underwrite this in terms of specifics since I review all the applications for admission to our school. I have yet to see a medical applicant for the school who has not had an internship.

Mr. COLLIER. How many public health people who go through public health training and who in some instances have a public health assignment later go into private practice?

Dr. LEAVELL. We do not have any figures, I am pretty sure, on that. I would say a smaller number recently than in the past. I would not say a large number.

We could try to get some figures on this. Would you think there was a large number?

Dr. STEBBINS. No. We follow all of our graduates. This is a guess, but it would not be more than 3 or 4 percent of the graduates that go into private practice after having had their training in public health.

Dr. LEAVELL. We did make a check on this, on all of the schools a few years ago with the cooperation of the Public Health Service.

We found at that time, I believe, that there were only 7 percent of the graduates who had gone into some kind of industry or private practice of one kind or another.

Mr. COLLIER. One final question. In view of the direction of this legislation, where would we stop in attempting to provide within this program assistance for every phase and type of public health personnel, or should this be restricted in line with the basic subject matter of the legislation, public health personnel that are directly in the field of medicine, as such, or as public health doctors?

Dr. LEAVELL. The legislation, as it is now written, relates to graduate public health training which we interpret to mean essentially the kind of training that is given in the schools of public health where a person would get a master's degree. This is certainly only a fraction of the people in public health. It is a significant fraction because it contains, we believe, most of the leaders in public health, the nurses who come to our schools are the ones who are going to be head of a State service or head of a school of nursing or something of that kind.

The engineers are going to have very responsible positions.

There are a small number of sanitarians, but they are going to be supervising other people. They are not run-of-the-mine people who are trained in public health.

You could put it, in brief, it is mostly chiefs and not very many Indians that we train, but we think that these are the people that communities must look to for guidance and that we must have these people.

Obviously, we do not try to train the whole 28,000 people that this conference we cited pointed up.

Mr. COLLIER. Then we must assume that within this legislation we will also be embracing the cost in case of scholarships or loans for those attending public health schools?

Dr. WEGMAN. That is not within this legislation.

Mr. COLLIER. Would this be part of the overall proposal or would this be restricted as you say?

Dr. LEAVELL. These people mostly have got to be financed some way if they are to take the training and the Federal Government is doing this to a very considerable degree at present. Either through the Armed Forces or the Public Health Service or grants to foreign people to come here for training or grants to some promising young fellow who just wants to go into public health and State and local people.

Mr. COLLIER. The States now in many instances do, however, finance the training for the sanitarians, the sanitary engineer, the public health nurse?

Dr. WEGMAN. And public health physicians. All of these, sir, you understand, are all graduate students. We admit no one to a school of public health who does not already have some degree.

Mr. COLLIER. I understand. I have looked at the bulletins of help wanted for public health doctors in various counties and so on, and I generally know what the basic requirements are.

I was curious about this, because it is such a broad field that extends beyond the doctor or the medical field, that I just pursued this line of questioning.

Thank you very much, Mr. Chairman.

The CHAIRMAN. Mr. Keith?

Mr. KEITH. It would seem to me that the public health personnel would have tremendous responsibilities in the event of a catastrophic war. Have any of your schools that you know of conducted any study with reference to the civil defense requirements as they pertain to public health?

Dr. LEAVELL. Yes, sir, I am sure that all of the schools are concerned with this in different ways, including this in their instructions, working on committees with the State health people or the local health people wherever they are operating. This certainly is a realm that public health people would feel was their responsibility.

Mr. KEITH. Do you have many Army officers who participate by quota in public health schools that you know of?

Dr. LEAVELL. Coming to schools as students?

Mr. KEITH. Yes.

Dr. LEAVELL. Yes, and both Hopkins and Harvard have had for many years now a dozen or so Air Force people each year.

This is a regular part of their training for medical people, one of a 3-year program, to send them to schools of public health.

California is having them now.

Dr. WEGMAN. We have Air Force people, too.

Mr. KEITH. What about the other branches?

Dr. LEAVELL. Army and Navy as well.

Mr. KEITH. Thank you very much.

The CHAIRMAN. Thank you very much, gentlemen. We appreciate your testimony and presentation on behalf of the schools of public health.

Dr. LEAVELL. Thank you, sir.

The CHAIRMAN. We shall now have Mr. John S. Millis, president of Western Reserve University and a member of the Commission on Federal Relations of the American Council on Education, Cleveland, Ohio.

We welcome you to this hearing and we shall be glad to have your statement.

STATEMENT OF JOHN S. MILLIS, PRESIDENT, WESTERN RESERVE UNIVERSITY, CLEVELAND, OHIO, ON BEHALF OF THE AMERICAN COUNCIL ON EDUCATION

Mr. MILLIS. I am here on behalf of the Commission on Federal Relations of the American Council on Education. This council includes in its membership 145 educational organizations and 1,079 educational institutions, among which are all of the universities which are operating schools of medicine and dentistry.

I have, sir, presented a written piece of testimony which I ask to be included in the record.

In order to save your time I should like simply to comment on the major points.

The CHAIRMAN. It may be included in the record at this point.
(The prepared statement referred to follows:)

STATEMENT OF JOHN S. MILLIS, PRESIDENT, WESTERN RESERVE UNIVERSITY, CLEVELAND, OHIO

Mr. Chairman and members of the committee, I am John S. Millis, president of Western Reserve University. I am appearing as a representative of the Commission on Federal Relations of the American Council on Education. The council includes in its membership 145 educational organizations and 1,079 educational institutions. Among the institutions belonging to the council are all those accredited universities which have schools of medicine and dentistry.

The American Council on Education wishes to state its strong support of the proposed Health Professions Assistance Act, H.R. 4999, but further wishes to state the opinion that should it be enacted by the Congress, it will constitute but the first step in solving the complex and highly important problem of furnishing the members of the health professions that are and will be required for health service to the American people.

We are concerned with the public welfare. That welfare is dependent upon our resources, both physical and human—resources of soil and its fertility, raw materials for our industrial complex, the industrial plants and their efficiency, our citizens and their health. Of these resources, the health of our people is the greatest, and therefore the means by which that health can be maintained and improved is of the utmost concern to our citizens and to their Government.

The Federal Government has already made large contributions to the maintenance of health and the prevention of disease by substantial financial support of health-related research. This support has taken the form of direct financial support of research workers through the large and varied programs of the National Institutes of Health, and by matching grants to universities and other nonprofit organizations for the construction and equipment of health-related research facilities. This substantial support of research has led to many discoveries which have made vast improvements in both the treatment and prevention of disease. Other and even more dramatic results will follow as the result of a large and vigorous research effort on a national scale.

New knowledge is available and will continue to come in ever-increasing amounts in the future. But all the new knowledge in the world is of no value unless there are highly trained men to use it. We can know all about the cure and prevention of every known disease but if there are no physicians and dentists to use that knowledge in the care of patients, the health of our Nation will decline and people will suffer and die just as if the knowledge had never been discovered. Thus should H.R. 4999 be enacted, the Congress would take the logical and necessary step to make its program for the health of the Nation functional and more nearly complete.

The schools of medicine and dentistry of the United States are hard pressed to maintain both the quantity and quality of educational opportunities in the health professions. Many schools suffer from the handicaps of obsolete and inadequate physical facilities. All suffer from inadequate financial support to meet the rising costs of their educational programs. It will take great efforts on the part of both public and independent institutions to maintain adequate educational opportunities for the present number of students. Yet, the United States must have much larger numbers of physicians and dentists in the very near future or the health care of our citizens will decline in quality and in availability. Any realistic estimate of the needs of our schools, if they are to educate more students, shows that a very substantial source of financial support must be found in addition to the present private and public sources. Most educators believe that such new support must involve the participation of the Federal Government.

In order to educate more physicians and dentists, our schools require four things—larger and more adequate physical facilities, increased operating funds, larger faculties, and more and better students. H.R. 4999 is concerned with all four of these needs.

We believe that the proposed program of matching Federal grants for the erection and equipment of new facilities for teaching purposes and the renova-

tion of existing facilities will be of enormous help in making possible the acceptance of large entering classes of student physicans and dentists. We believe that the encouragement for enlargement of the size of the student body by the more advantageous program of matching grants on a 2 for 1 basis for those present schools proposing to accept larger classes is eminently sound.

This point needs particular emphasis. The prospect of obtaining any substantial increase in the number of physicians and dentists by creating new schools is slight. First, the cost of beginning a new school is extremely high. Secondly, the problem of recruiting a faculty in a market already highly competitive and with a nonexistent supply of candidates is nearly insoluble. Thirdly, there are very few universities now without health science schools which have the resources—financial, human, and physical—to undertake the responsibility of presenting high quality education at the high level required. Therefore, in my opinion, our best chance to make a substantial gain in the number of physicians and dentists is to make it possible for the existing schools to accomplish substantial expansion. It is for this reason that every inducement should be given that encourages and makes possible plan of expansion.

We will have little success in our efforts to educate more physicians and dentists unless we can recruit candidates from a larger segment of our total population. The costs, both in money and time, of obtaining a professional education have become so high that only the sons and daughters of the economically most fortunate families may aspire to careers in the health sciences. It is imperative that bold and constructive steps be taken to provide financial assistance to less fortunate young people whose talents and dedication our society sorely needs. We feel that the provisions of H.R. 4999 to provide Federal funds for scholarships are generally sound. The assignment of the responsibility for decision as to which students shall receive the scholarships upon a basis of need and merit, to the school in which they are enrolled, is sound policy. The faculties and officers of the schools are in the best position to make such decisions for they know the students intimately and can best judge the merits of each individual case.

At this point we would present one criticism. The maximum scholarship allowed in the H.R. 4999 is $2,000 per annum. The annual costs of studying in most schools is substantially in excess of this figure. I would suggest that a maximum of $2,500 per annum would be more realistic and would make possible entrance into schools of medicine and dentistry of an even larger group of promising students.

The third requirement of every school which undertakes to accept a larger student body is augmented funds for operation. The schools are already hard pressed to meet their current budgets. To undertake the costs incident to teaching more students is virtually impossible in most cases. H.R. 4999 provides a cost of education grant of $1,000 per annum for one-fourth of the number of students enrolled. This figure is woefully inadequate. The cost of educating a student for the health professions is of the order of at least $5,000 per year. To provide assistance of only one-fifth of this figure for only one-fourth of the students is unrealistic and will in no way encourage our present schools to expand the number of students admitted. I would respectfully suggest that a substantial increase in this figure is needed. I would further suggest that the cost of education grants, both as to number and amount, should be tied to the intent and the accomplishment of the schools in increasing the number of students in training so that a positive and constructive encouragement can be given to those who accept such enlarged responsibilities.

The fourth necessary element in the production of more physicians and dentists is the provision of more health scientists for the faculties of our schools. The present number of such health scientists is inadequate. There are now vacancies on every faculty just because there are no candidates to fill them. As present schools expand their student bodies, as new schools are begun, many additional teachers must be recruited. As things now stand, they must be taken from their present positions, leaving more vacancies and further weakening our capacity to do our present job. We must achieve a large increase in the number of health scientists and must do so immediately. This is the key log in the jam. We can have plenty of facilities, lots of students, and enough money, but without more teachers we will not produce any increase in the number of graduate physicians and dentists.

Health scientists are educated through and in research. Therefore we must enlarge and enhance our resources for research training. H.R. 4999 provides a positive and constructive step in this regard. The enlargement and extension of the program for facilities grants for health related research, and the amendment to include research related activities and specifically research training, is an absolute must. We therefore support most heartily this portion of the act.

In conclusion, may I express my gratitude to the chairman and to the members of the committee for the privilege of presenting the views of the American Council on Education concerning H.R. 4999, the proposed Health Professions Educational Assistance Act. May I further offer my congratulations to the chairman who has drafted and presented this bill to the Congress which, if passed, will have important and beneficial results in insuring adequate health care to the citizens of the United States.

Mr. MILLIS. First, the American Council supports enthusiastically H.R. 4999 and believes it is extremely constructive. I think it can be viewed from one point of view which has not yet been stated; namely, that it is a logical extension of the interest which the Federal Government has already expressed and demonstrated in the health of the citizens of this country for, by the several pieces of legislation which have supported research in the health sciences, great progress has been made in our knowledge and in our skill in coping with disease and with its prevention

However, I would point out to you that with all the knowledge in the world, with all the skill in the world, unless there are men capable of using that in the practice of medicine and the care of patients, we have produced little, if anything.

Therefore, our No. 1 problem at this point is to provide a sufficient number of health personnel, to utilize the knowledge which has come from the past and which will be coming in the future so that our people's health will be maintained at an appropriate level.

Therfore, there is an obligation laid upon the institutions of this country which have taken the responsibility of operating schools of medicine and of dentistry to find the ways and means whereby the size of these schools may be expanded and the number of students admitted and therefore the number of graduates produced may be expanded.

There are four matters to be concerned with as expressed in this bill and in stating them I shall indicate my personal judgment as to their order of importance.

First, facilities; second, faculty; third, students; and fourth, operating funds.

We are at about the point where we cannot accommodate any increase in the size of our entering classes in medicine or in dentistry in this country and, therefore, if we are to produce 25 or 30 or 40 or 50 percent increase in the number of students admitted, we must have new facilities. Certainly, therefore, the legislation is most sound in proposing a matching program which encourages new institutions, No. 1, but more particularly the expansion of existing institutions. I say more particularly the latter for the simple reason that the task is easier to expand an existing medical school than to gain a new one.

The cost in dollars is less. The problem of recruiting an expanding faculty is less and the time element is also less.

Secondly, I would speak of faculty, which is perhaps our most acute bottleneck because we are all competing in a market in which there is no supply and there is a question of robbing Peter to pay Paul. Therefore, we need to expand the number of competent faculty members

and in this the research facility provision of the act is most statesmanlike for it proposes the extension in time, the extension in the amount of the appropriation but particularly the expressed inclusion of research training.

I point this out because of the fact that the faculty member for a medical school or dental school is a research trained person. He is trained in but specifically through research.

The third point is the number of students. The greatest number, the greatest amount of increase in the number of students applying for medicine and dentistry will come by widening the economic level from which students may aspire to careers in the health sciences, therefore this proposal of scholarship on the basis of need and merit is an extremely wise one.

I think if you review class after class of medical schools around this country, you would see validated the fact that for the most part students of medicine and the other health sciences come from the more economically favored groups but there is talent and there is devotion among all segments of our society.

There is one caveat I would raise here and point out to the committee that the maximum scholarship provided here is $2,000, which is not largely but still substantially below the cost of a year in a medical school. Probably $2,500 would be more realistic because by going from $2,000 to $2,500, you would further widen the spectrum of the young people from which you might recruit more students for the health sciences.

Last is the support of the schools in their attempt to expand the size of their classes by giving some assistance in operating expenses through a subvention matched to the scholarship grant.

I would point out to you as other speakers have, or the witnesses have, that the cost of health education is on the order of $4,000 to $5,000 per student per year, in some cases maybe $6,000, and a subvention of a thousand dollars per student as the cost of an education grant is rather unrealistically related to that figure.

I would further point out that this may be another point where you can encourage the existing schools to expand to a greater degree. That if the cost of education grant was also predicated upon the rate and the accomplishment of the expansion of the school, this might make some of the schools expand more rapidly and more effectively with the result of the production of more personnel.

There, sir, I shall rest my brief statement.

If there are questions, I shall be happy to attempt to answer them.

The CHAIRMAN. Thank you very much, Doctor.

Are there any questions?

We are very glad to have your statement.

Mr. MILLIS. Thank you, Mr. Chairman.

The CHAIRMAN. Dr. Alfred Rosenbloom.

May I inquire, Doctor, before I recognize Mr. Macdonald, may I inquire if there are any of the other witnesses who are here who intend to file a statement and desire to do so?

May I have you name?

Dr. RUSCH. My name is Rusch.

The CHAIRMAN. Dr. Rusch?

Dr. RUSCH. Yes.

The CHAIRMAN. Do you intend to file a statement or would you like to testify?

Dr. RUSCH. I would like to testify.

The CHAIRMAN. I had reference to those who merely might want to file a statement.

Very well.

Mr. Macdonald?

We are glad to have our colleague, a member of this committee, Mr. Macdonald.

STATEMENT OF HON. TORBERT H. MACDONALD, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. MACDONALD. Thank you, Mr. Chairman. I wil make my statement as brief as possible.

The reason I take this opportunity to testify is that I would like the opinion of people who follow concerning the subject matter on which I am about to speak.

I am offering amendments to H.R. 4999 which will make the authorized funds available to optometry schools and students. I want to call your attention to the fact that the bill, as introduced, if enacted into law would authorize annual appropriations totaling $75 million for construction of new facilities and the rehabilitation of existing ones.

In order to make certain that some funds would be authorized for schools and colleges of optometry, one of my amendments would increase this amount by only 1 percent. In this day and age, vision is so important to our school children, our college students, our men and women in industry and the Armed Forces, operators of motor vehicles and to our rapidly increasing number of retired citizens. Certainly, 1 percent is a very modest sum for our schools and colleges of optometry. These schools are engaged in training men and women to examine the eyes of the public, to improve their vision by means of lenses or visual training and, where necessary, to refer them to physicians for medical or surgical treatment. Congress would be open to the severest criticism if we made no provision for this segment of the health profession.

The vast majority of our citizens who rely upon optometric care for their visual needs are located in the smaller communities. Ophthalmologists, optometry's counterpart in the medical profession, are located in the larger centers of population. There are about one-fourth as many board certified ophthalmologists as there are optometrists. The vast majority of these are to be found in the metropolitan areas such as Boston, Philadelphia, Chicago, St. Louis, San Francisco, Los Angeles, and so forth. Few cities of any size have enough optometrists in ratio to population. Today in the United States there is one optometrist for each 10,000 persons, whereas the need is one optometrist for each 7,000 persons.

As our civilization becomes more highly mechanized, vision requirements become more exacting. Every age of our population continues rising, with more and more Americans living beyond the age at which unaided vision serves their needs. As our school population swells with increasingly larger generations of youth, the field of prevention

and correction for children grows proportionately. During the 1950's the ratio of the population wearing spectacles increased more than 10 percent. The trend obviously continued upward as a more vision-conscious public demands professional attention.

The armed services at the present time have some 350 commissioned optometrists on active duty. They hold ranks ranging from second lieutenant to colonel in the Army and Air Force, with corresponding ranks in the Navy. This number is not adequate to meet the needs of the military, and yet the schools of optometry in the entire United States are at the present time graduating only about 350 students a year. Of course, I realize that the Armed Forces do not have to replenish their optometric manpower annually, but it does illustrate the serious problem which would confront this Nation should there be a national emergency which required a substantial increase in our Armed Forces.

Massachusetts is fortunate in that it has 1 of the 10 accredited schools of optometry within its borders. The Massachusetts College of Optometry has to provide not only the optometrists for Massachusetts, but for all of New England and the State of New York. The nearest school to Massachusetts is in Philadelphia. The southeastern portion of the United States does not have a single school of optometry and the same is true of the Rocky Mountain area. There are no schools of optometry west of the Mississippi River, north of Texas, and east of the Sierra Mountains. This area has to be served by optometrists who have traveled thousands of miles to secure their education. You may be interested to know that our schools and colleges of optometry are being called upon to train optometrists for Latin America, Asia, and Africa. As a matter of fact, Western Europe is dependent upon London and the United States to train its optometrists.

There was a time when anyone could offer to examine eyes and prescribe glasses. Today, in order to secure an original license to practice, an optometrist must be a graduate of an accredited school of optometry. All schools of optometry require a minimum of 5 years of study at the college level and some require a 6th year for the O.D. degree. In addition to completing these educational requirements, a State board examination is required. Every 1 of the 50 States and the District of Columbia, either by legislative action or regulations having the force of law, make this a requirement to practice.

The U.S. Supreme Court, in upholding the constitutionality of an Oklahoma statute regulating the practice of optometry and the sale of corrective eyeglasses, said:

> It seems to us that this regulation is on the same constitutional footing as the denial to corporations of the right to practice denistry (*Williamson* v. *Lee Optical of Oklahoma*, 348 U.S. 483).

It seems to me that Congress should provide the same educational footing for optometry as it proposes to provide for denistry and osteopathy. A failure to include optometric institutions will adversely affect the visual care of millions of Americans. That is the purpose of the amendments which I intend to offer to H.R. 4999 at the appropriate time.

The CHAIRMAN. Thank you. We appreciate your advising us of your intention.

Mr. MACDONALD. Thank you, sir.

The CHAIRMAN. Dr. Rosenbloom, representing the American Optometric Association, dean of the Illinois College of Dentistry.

I notice you have an old friend with you.

STATEMENT OF WILLIAM P. MacCRACKEN, JR., WASHINGTON COUNCIL FOR THE AMERICAN OPTOMETRIC ASSOCIATION

Mr. MACCRACKEN. Mr. Chairman, it is always a pleasure to appear before this committee.

During the noon luncheon I reminded the chairman that my first appearance was when Congressman Winslow of Massachusetts was chairman 40 years ago next month. I think I can call the roll of the chairmen without looking back. I cannot call the roll of all the committee members, though.

It is a pleasure to have had that experience.

I am glad to be here this afternoon.

The CHAIRMAN. I believe you should fully identify yourself for the record.

Mr. MACCRACKEN. William P. MacCracken, Jr. I am an attorney practicing in Washington, D.C.

I represent the American Optometric Association as their Washington counsel.

The CHAIRMAN. Thank you very much.

We are glad to have you back with us to be with the doctor during the presentation of the statement on behalf of that association.

STATEMENT OF DR. ALFRED A. ROSENBLOOM, JR., DEAN, ILLINOIS COLLEGE OF OPTOMETRY, AND MEMBER, AMERICAN OPTOMETRIC ASSOCIATION, COUNCIL ON OPTOMETRIC EDUCATION; ACCOMPANIED BY WILLIAM P. MacCRACKEN, JR., WASHINGTON COUNCIL FOR THE AMERICAN OPTOMETRIC ASSOCIATION

Dr. ROSENBLOOM. Thank you very much, Congressman Macdonald.

Mr. Chairman and members of the committee, my name is Alfred A. Rosenbloom. My residence is 6829 South Cranston Avenue, Chicago, Ill. I graduated from Northern Illinois College of Optometry, cumlaude, in 1948 with the degree of doctor of optometry, after receiving an A.B. degree from Pennsylvania State University in 1942. Since 1948, I have been a member of the faculty at Illinois and in 1956 was appointed dean of the college. Currently, I am completing the requirements for a Ph. D. at the University of Chicago, Department of Education, having already received a master's degree from that institution. For the past 6 years I have served as optometric consultant for the Chicago Lighthouse for the Blind. My appearance here is as a member of the Council on Optometric Education of the American Optometric Association and as a spokesman for the American Optometric Association in behalf of an amendment which we believe merits your attention and support.

In this day and age people have a tendency to take too much for granted and this is particularly true with what is sometimes referred

to as "God's greatest gift to mankind," namely, eyesight. The visual tasks which are required of children, college students, men and women in our offices, factories and research laboratories, on the highways, in the air, for national defense, and in outer space, as well as the enjoyment of added years of life were unknown at the beginning of the century and are not fully appreciated by most people today.

The vision care of your fellow citizens rests primarily on the shoulders of the members of the optometric profession. There are some 18,000 practicing optometrists in the United States and approximately two-thirds of them are members of the American Optometric Association. We have always advocated that there should be 1 practicing optometrist for every 7,000 of our population; today the ratio is less than 1 to 10,000. The number of practicing physicians and dentists is declining in relation to the population, but so is the number of practicing optometrists. Our ratio of decline is more rapid than that of physicians and dentists, the demand for whose services is being reduced through sanitation, vaccination, fluorination, and other preventive measures.

While our population increase affects all age groups, the greatest increase is in the group over 50, the vast majority of whom are in need of optometric services to enable them to continue to contribute to our economy, to enjoy the well earned rewards which should be theirs in their later years and to enable them to be self-reliant, useful citizens.

All 50 States and the District of Columbia have laws regulating the practicing of optometry and the licensing of optometrists. One entering our profession today must have successfully completed 5 years of study in an accredited school or college of optometry, at least 3 years of which are devoted to subjects dealing with our specialty, following which they must pass a State board examination.

There are only 10 accredited schools and colleges of optometry in the United States. These are:

The Massachusetts School of Optometry, Boston.
The Ohio State University School of Optometry, Columbus.
The Pacific University College of Optometry, Forest Grove, Oreg.
The Pennsylvania College of Optometry, Philadelphia.
The Southern College of Optometry, Memphis, Tenn.
University of California School of Optometry, Berkeley, Calif.
University of Houston College of Optometry, Houston, Tex.
The Illinois College of Optometry, Chicago.
Indiana University Division of Optometry, Bloomington.
The Los Angeles College of Optometry, Los Angeles.

For the past 3 years as a member of the Council on Optometric Education, I visited most of our schools and colleges of optometry. I can say from firsthand experience that most of these schools are all faced with serious financial problems in order to continue their operation. In Texas, for example, the optometrists themselves supported a bill which passed the State legislature raising the annual fee charged practicing optometrists, the additional money to go to support the Optometry School of Houston University. A similar program was adopted in California, the additional money to go to support the School of Optometry of University of California.

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None of our schools and colleges can boast of substantial endowment funds, although all of them do receive support from their alumni and other optometric groups, such as the Women's Auxiliary of the American Optometric Association and the American Optometric Foundation, a nonprofit corporation whose funds are derived almost exclusively from members of our profession and their families.

Our profession was first recognized by Congress in 1924 when it enacted the District of Columbia optometry law.

In 1945 Congress passed the Optometry Corps bill over the strenuous objection of the War Department. President Truman vetoed the bill but only after he had been assured by the War Department that following the cessation of hostilities in World War II, the Department would sponsor legislation to commission optometrists in the armed services. In 1947 the Medical Services Corps law was enacted which provided for commissioning of optometrists in the armed services.

Today there are on active duty in the Army, Navy, and Air Force something over 350 commissioned optometry officers and more are needed. Their ranks range from second lieutenant to colonel, or their equivalent ranks in the Navy.

The 1950 amendments to the social security law provided that optometric services should be made available to the beneficiaries of the aid to the blind program who desired to utilize them, and in 1959 the same privileges were accorded to veterans entitled to outpatient vision care. The enactment of these last two laws prompts me to call your attention to the fact that opthalmologists and occulists who provide primarily eye surgery and medication, as well as performing other services similar to those provided by optometrists, are located for the most part in the larger centers of population. The board certified ophthalmologists who are practicing number less one-third the number of practicing optometrists. The vision care of those citizens residing in the smaller cities and rural areas is provided almost exclusively by optometrists.

The draft doctors law included optometrists and President Kennedy has just appointed Dr. P. N. DeVere, of Morganton, N.C., a past president of the American Optometric Association, as a member of the National Advisory Committee to the Selective Service System on the Selection of Physicians, Dentists, and Allied Specialists. The committee was established by an act of Congress.

Optometry performs an unique and distinct vision care service. Its uniqueness stems from its extensive education not only in the sciences of physiology, anatomy, and pathology given in the training afforded all the health care professions, but in addition the exclusive formal education in physiological optics. The only courses of graduate studies leading to the Ph. D. degree in physiological optics are found on campuses where schools of optometry exist. The hard core of their faculty teaching this subject is composed almost exclusively of optometrists.

Highway safety is a subject that has been of vital interest to this committee. It is my understanding that one-third of the automobile mileage in this country is driven between sundown and sunrise, but that two-thirds of the automobile accidents occur during that period. The Indiana University Division of Optometry, with the financial

backing of the American Optometric Foundation, is engaged in a research program dealing with night vision for automobile drivers. Prior to the time this program was undertaken, there had never been any attempt to determine the visual requirements for night driving. This is only one instance among many others in which our profession has pioneered in the interest of safety and welfare of the American public.

It may have occurred to some of you that the adoption of the amendment which I am about to suggest will add greatly to the cost of the program. These bills authorize annual appropriation of $75 million for new or enlarged schools of medicine, dentistry, osteopathy, and public health. I am suggesting that this amount be increased by only $750,000 a year. This is 1 percent of the annual total authorization, a mere pittance as far as the overall cost of the building program is concerned, yet it will be of great benefit to the public in that it will enable our schools and colleges to graduate more and better trained optometrists to provide for the visual welfare of our American citizens.

Six or seven years ago we lost one of our largest and oldest schools of optometry which was located at Columbia University in New York City. Since then our profession has been trying to establish a new school of optometry in that area. The inclusion of optometry in this bill will greatly facilitate the accomplishment of that important objective.

Another area which is greatly in need of a school of optometry is the southeastern section of the United States. Virginia, West Virginia, the Carolinas, Georgia, Alabama, Missisippi, and Florida are greatly in need of such a school. The Florida Legislature makes an annual appropriation for the expenses of a few students from that State to attend one of our accredited optometric institutions. West of the Mississippi River to the Sierras and north of the Texas border there is not a single school or college of optometry. Young men and women living in this vast area must go either to the Pacific coast, Houston, Tex., or east of the Mississippi River in order to obtain an optometric education.

To give you some idea of the work being done by our profession through the committees and departments of the American Optometric Association, I should like to name them:

Council on education, department of education, committees on contact lenses, ethics, international affairs—this committee among other things is struggling for a solution of the Cuban refugee problem as it affects optometrists—motorists' vision and highway safety, occupational vision, orthoptics and visual training, research, social and health care trends, standards, vision aid to the partially blind, vocational guidance, vision care of the aging, visual problems of children and youth.

The last two committees made significant contribution to the White House Conferences dealing with these areas.

The most recent committee to be appointed is that on visual problems of aeronautics and space.

This month they met in Washington and conferred with representatives of the Federal Aviation Agency, Office of Naval Research, and the Armed Forces Committee on Vision. Time will not permit my describing the work of these committees but their names will give you some idea of the important contributions they are making to the modern demands of vision in their respective fields. They are cooperating with agencies of our Federal Government interested in these subjects and have received many commendations for the work they are doing.

May I pause here to state that the problem of student recruitment for schools and colleges of optometry, which is very serious, will become more so if this legislation is enacted without including optometry students.

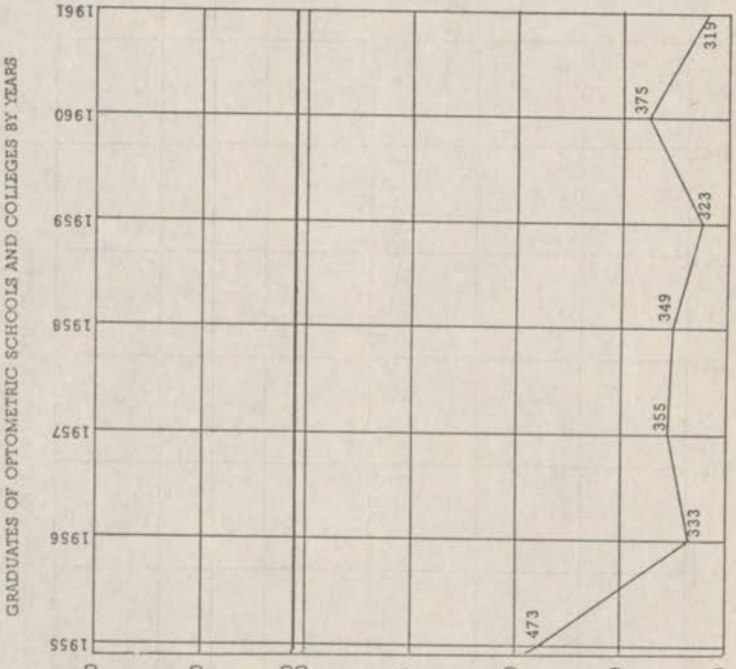
In the interest of conserving your time, much that I would like to say, and which I hope would be of interest to you, has been omitted from this statement, but I am attaching to it some material which I trust when you come to study this legislation you will find interesting and helpful in leading you to include optometry colleges and students in this legislation.

The amendments which we propose are also attached.

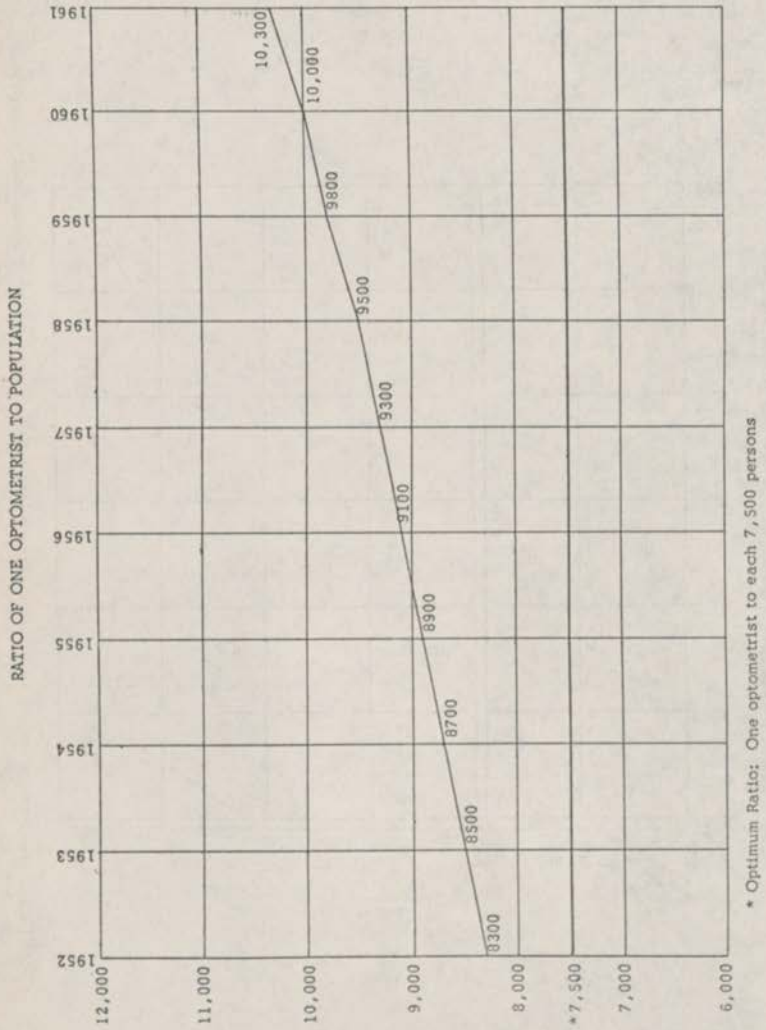
(The attachments referred to follow:)

OPTOMETRIC AMENDMENTS TO H.R. 4999

Page 1, line 6, before the word "and" insert the word "optometric".
Page 2, line 9, after the word "osteopathic" insert the word "optometric".
Page 2, line 15, strike out "$45,000,000" and insert "$45,750,000".
Page 2, line 16, after the word "physicians" insert the word "optometrists".
Page 2, line 22, after the word "physicians" insert the word "optometrists".
Page 3, line 8, after the word "osteopathy" insert the word "optometry".
Page 4, line 18, after the word "osteopathy" insert the word "optometry".
Page 5, line 4, after the word "osteopathy" insert the word "optometry".
Page 6, line 23, after the word "dentistry" insert the word "optometry".
Page 7, line 5, after the word "dentists" insert the word "optometrists".
Page 10, line 23, after the words "school of osteopathy" insert the words "school of optometry".
Page 11, line 2, after the word "osteopathy" insert the words "of doctor of optometry or an equivalent degree".
Page 11, line 14, strike out the word "four" and insert in lieu thereof the word "five".
Page 11, line 16, after the word "osteopathy" insert the word "optometry".
Page 11, line 20, after the word "dentistry" insert the word "optometry".
Page 14, line 6, after the word "osteopathy" insert the word "optometry".
Page 14, line 12, after the word "dental" insert the word "optometric".
Page 14, line 23, after the word "physicians" insert the word "optometrists".
Page 15, line 2, after the word "osteopathy" insert the word "optometry".
Page 15, line 6, after the word "or" insert the word "optometry".
Page 18, line 3, strike out the line and insert in lieu thereof the following: "SEC. 3 (a). Section 702 (4) of the Public Health Service Act is amended by inserting 'Optometry' after 'dentistry'."
"(b) Effective with respect to appropriations for".
Page 18, line 10, strike out "(b)" and insert in lieu thereof "(c)".
Page 18, line 13, strike out "(c)" and insert in lieu thereof "(d)".
Page 18, line 20, strike out "(d)" and insert in lieu thereof "(e)".
Page 19, line 8, strike out "(e)" and insert in lieu thereof "(f)".
Page 20, line 6, strike out "(f)" and insert in lieu thereof "(g)".



*710 new optometrists needed each year to replace loss from death and retirements and meet population growth


RATIO OF ONE OPTOMETRIST TO POPULATION
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
12,000
11,000
10,000
9,000
8,000
*7,500
7,000
6,000
10,300
10,000
9800
9500
9300
9100
8900
8700
8500
8300
* Optimum Ratio: One optometrist to each 7,500 persons

Dr. ROSENBLOOM. Mr. Chairman, may I thank you and the committee for the privilege of presenting the optometrist's position to this committee.

Mr. MACDONALD (presiding). Thank you very much.

Are there any questions?

Mr. COLLIER. Yes, if I may.

When Secretary Ribicoff testified before this committee on the legislation, I do not recall whether you were here, but I simply asked him why optometry was not embraced in the bill. I ask him at the same time whether he felt there was a shortage of optometrists. His answer was in the negative.

Going back to the Secretary's statement, could you supply any figure as to the number of optometrists per capita in this country, what it was, say, 10 years ago, which they have in the Secretary's statement, as compared to what it is per capita today?

Dr. ROSENBLOOM. Congressman, if you would care to examine our chart which is attached to the statement, sir, in 1952 there was a ratio of 1 optometrist to 8,300 citizens. In 1961, this has climbed to a ratio of 1 optometrist to 10,300 citizens.

Mr. COLLIER. I only went as far in your statement as you went. I did not see the chart on the back.

Now, what in years is the period of training for a graduate optometrist?

Dr. ROSENBLOOM. There is a minimum training period of 5 years, 2 years preprofessional, and 3 or 4 years professional. Some of our programs have been expanded to include 4 years, which makes a total of 6 years of collegiate training.

I might add that approximately 20 percent of our students come to the optometry school or college with a bachelor's degree in which case the program of training in these instances would be several years longer.

Mr. COLLIER. All I am trying to do in bringing the Secretary's statement in is to establish that the arguments for the other phases of the field of medicine, and so on, apply here.

The statement says essential factors contributing to the problem of shortage of doctors is, No. 1, limited enrollment capacity of the schools.

Does this apply to the schools of optometry?

Dr. ROSENBLOOM. Yes.

Mr. COLLIER. No. 2, the mounting cost of professional education both for construction and operations.

Dr. ROSENBLOOM. Yes, this is very much our problem.

Mr. COLLIER. The dwindling supply of qualified applicants.

Dr. ROSENBLOOM. Yes, this is also a problem.

Mr. COLLIER. The same qualifications then apply to optometrists?

Dr. ROSENBLOOM. Yes.

Mr. COLLIER. Thank you very much.

Mr. MACDONALD. Thank you, Dr. Rosenbloom.

Dr. Rusch?

Dr. Rusch is director of the McArdle Memorial Laboratory for Cancer Research at the University of Wisconsin.

(Supplementary information furnished by Department of Health, Education, and Welfare:)

In response to your request concerning optometrists, the American Optometric Association reports that 19,000 optometrists were in active practice in 1958, in-

cluding 336 employed by the Federal Government. There are 10 accredited schools in the United States, as follows:

California: Los Angeles College of Optometry, University of California School of Optometry.

Illinois: Illinois College of Optometry.

Indiana: Indiana University Division of Optometry.

Massachusetts: Massachusetts College of Optometry.

Ohio: Ohio State University School of Optometry.

Oregon: Pacific University College of Optometry.

Pennsylvania: Pennsylvania State College of Optometry.

Texas: University of Houston College of Optometry.

Tennessee: Southern College of Optometry.

The numbers of students and graduates in schools of optometry have decreased sharply in the past 10 years:

School year	Students	Graduates	School year	Students	Graduates
1951–52	2,015	636	1956–57	1,175	355
1952–53	1,959	684	1957–58	1,155	349
1953–54	1,631	674	1958–59	1,235	323
1954–55	1,396	473	1959–60	1,168	317
1955–56	1,233	333	1960–61		319

Further information which may be of help to your committee is contained in the attached "Employment Outlook for Optometrists," which follows:

Employment Outlook for Optometrists

NATURE OF WORK

Optometrists examine eyes and do other work concerned with safeguarding and improving vision. They use special instruments and tests to find and measure defects in vision and, when needed, prescribe eyeglasses, eye exercises, or other treatment that does not require drugs or surgery. Most optometrists supply their patients with the eyeglasses prescribed. However, they usually have the lenses ground at an optical laboratory and then cut them to fit the frames selected by patients. Some optometrists do only minor repair work, such as straightening frames or replacing nose pieces on glasses.

A growing number of optometrists include visual training, the use of corrective eye exercises, in their practice. Some do other specialized work such as fitting persons who are nearly blind with telescopic spectacles, fitting contact lenses, studying the relationship of vision to highway safety, and analyzing lighting and other conditions that affect the efficiency of workers in industry. A few optometrists are engaged primarily in teaching or research.

Optometrists should not be confused with ophthalmologists, oculists, or opticians. Ophthalmologists and oculists are licensed physicians who specialize in the medical and surgical care of the eyes and may prescribe drugs or other treatment, as well as lenses. Opticians grind lenses according to prescriptions for eyeglasses written by physicians who are medical eye specialists or by optometrists; they do not examine eyes or prescribe treatment.

WHERE EMPLOYED

Most of the 17,000 optometrists professionally active in early 1958 were in private practice in their own offices. However, some were salaried employees working as assistants to established practitioners or for health clinics, hospitals, optical instrument manufacturers, and Government agencies. A few taught in colleges of optometry or served as optometrists in the Armed Forces.

Optometrists are located chiefly in large cities and industrial areas where many people are engaged in office work or other occupations which place a strain on the eyes. Nearly 40 percent are in the four States with the greatest population—Illinois, California, New York, and Pennsylvania. Many small towns and rural areas, especially in the South, have no optometrists.

TRAINING AND OTHER QUALIFICATIONS

A license is required in all States and the District of Columbia for the practice of optometry. To obtain a license, one must be a graduate of an accredited school of optometry and pass a State board examination. In some States, only graduates of certain accredited schools of optometry are admitted to these examinations. A student planning to become an optometrist should, therefore, choose a school approved by the board of optometry in the State where he expects to practice. Altogether, there were 10 schools of optometry in the country in 1958.

Five years of study beyond high school is the minimum education needed to become an optometrist. Usually this consists of 2 years of preoptometry education in an approved college, followed by 3 years of training in an optometry school. Some schools require a total of 6 years—2 of preoptometry study and 4 in a school of optometry. Preoptometry courses include mathematics and the basic sciences of physics, biology, and chemistry, as well as general education courses. The curriculum in schools of optometry provides not only for classroom and laboratory work but also experience in treating patients in the school's clinic. Most schools give their graduates the degree of doctor of optometry (O.D.) but some confer the degree of bachelor of science in optometry or master of optometry. Optometrists who wish to specialize often take additional training. The master's or Ph. D. degree in physiological optics or a related field is usually required for teaching and research work.

Qualifications considered important for a prospective optometrist are a liking for mathematical and scientific work, the ability to use delicate precision instruments, mechanical aptitude, and good vision. In addition, successful practice requires the ability to deal with people tactfully. In 1958, applicants with the necessary qualifications had an excellent chance of admittance to a school of optometry.

The majority of optometrists start either by setting up a new practice or by purchasing an established one. Some begin as assistants to established practitioners, and young graduates are frequently advised to do this in order to acquire experience and the funds necessary to equip an office. Office location is of major importance for a successful practice. The optometrist should consider the number of optometrists and medical eye specialists in the vicinity compared with the number, occupation, age, and income level of the population requiring eye care.

EMPLOYMENT OUTLOOK

Employment opportunities for new graduates of schools of optometry in the early 1960's are expected to arise mainly from the need to replace optometrists retiring or otherwise leaving the field. During this period, the number of new graduates is likely to be considerably less than the number of experienced optometrists dropping out of practice. As in the past, opportunities for beginning practice will generally be best in small towns and in residential areas of cities where the new optometrist can easily become known and where competition with established optometrists and medical eye specialists is not as keen as in large business centers. Communities, especially in the South, that have no optometric services available will also offer some opportunities for new graduates.

The demand for eye-care services will continue to grow over the long run. The importance of good vision to efficiency at work and in school is becoming more widely recognized, eye strain has been increased by many aspects of modern living; and the use of eyeglasses has come to be generally accepted. The volume of eye-care services needed will also be increased by the anticipated growth in population, especially by the expected sharp rise in the number of older people—the group most likely to need glasses. Although the expanded demand will be met in part by medical doctors who are eye specialists, optometrists will continue to supply a substantial proportion of all eye-care services.

Women optometrists, who constitute about 5 percent of the profession, have many opportunities to work as salaried assistants, especially in the field of visual training. Those in private practice have been particularly successful in work with children.

EARNINGS AND WORKING CONDITIONS

In optometry, as in some of the other health fields, a low income must be expected for the first 2 or 3 years of practice. However, as a practice becomes established, earnings usually rise significantly. In 1957, the average income above expenses for self-employed optometrists was $9,750, according to the American Optometric Association.

Optometrists practicing in towns and small cities have higher net earnings, on the average, than optometrists in large cities. However, there are some successful practitioners in big cities who have very high incomes. Although optometrists in salaried positions may at first earn more than the self-employed, earnings of those in practice for themselves usually outstrip incomes of salaried optometrists after a few years of experience.

Working hours in this profession are usually regular. Many offices are open 6 days and at least 1 night each week. However, some practitioners keep only scheduled appointments. Since the work is not strenuous, optometrists can often continue to practice after the normal retirement age.

WHERE TO GO FOR MORE INFORMATION

Additional information on optometry as a career is available from: American Optometric Association, Inc., 4030 Chouteau Avenue, St. Louis 10, Mo.

Information on required preoptometry courses may be obtained by writing to the optometry school in which the prospective student wishes to enroll. The board of optometry in the capital of the State in which the student plans to practice will provide a list of optometry schools approved by that State.

STATEMENT OF DR. HAROLD P. RUSCH, DIRECTOR, McARDLE MEMORIAL LABORATORY FOR CANCER RESEARCH, UNIVERSITY OF WISCONSIN

Dr. RUSCH. Mr. Chairman, gentlemen of the committee, I am Harold Rusch, director of the McArdle Memorial Laboratory for Cancer Research at the University of Wisconsin. Dr. Conrad Elvehjem, president of the University of Wisconsin, had intended to be here to give testimony but was unable to do so. He has prepared a statement, however, and I am asking permission to submit this for the record.

In addition, I have a short statement, and if I have your permission I wish to present it at this time.

Mr. MACDONALD. We will be happy to have your statement as well as Dr. Elvehjem's statement.

(The statement referred to follows:)

STATEMENT OF CONRAD A. ELVEHJEM, PRESIDENT, UNIVERSITY OF WISCONSIN

My name is Conrad A. Elvehjem. I am now president of the University of Wisconsin. However, from 1946 to 1958, I was dean of the Graduate School of the University of Wisconsin; and from 1923 to 1958, a period of 35 years, I was very active in teaching and research in the biological area, specifically biochemistry.

During my period in the laboratory, I worked with many graduate students and as a result of our efforts several fundamental findings in the field of biochemistry, for example, the discovery that nicotinic acid is the antipellagra factor, were published. About 80 Ph. D.'s received degrees with me and many more took their minor with me. During the period that I was graduate dean, I saw the number of graduate students at the University of Wisconsin increase from about 2,000 to almost 4,000 students. Since 1958 the number has increased to close to 5,000 students, and similar increases have taken place in all the large institutions. Thus, I have seen the increased need for support for research in the biological sciences in a very intimate way and I have seen the growing need for additional facilities.

When I started work in 1923 a few hundred dollars and small laboratory quarters were sufficient for us to do most of our work. However, the needs have grown tremendously and one of the greatest current bottlenecks to further research progress in this country is the lack of laboratory facilities. There are several reasons for this. First, we have seen a tremendous increase in the support of research; this was pointed out clearly by Dr. Shannon in the hearings last year on bill 4998—in which he indicated that the appropriation for the National Institutes of Health in 1956 was $97 million and in 1960 it was $560 million.

Similar increases have taken place from other sources. Naturally, this involves a very large increase in the number of laboratory workers. Second, the equipment has increased. The magnitude and complexity of the equipment requires larger and better quarters and in many cases the quarters must have temperature and humidity controls. The competition between building facilities for graduate and undergraduate work is obvious in all institutions carrying on both types of training. As research programs become more complex, the need for postdoctorate training becomes more urgent. This type of work requires even more office and laboratory space.

I know that every institution experiencing these problems has made every effort to find space for its research workers. For example, at Wisconsin we have tapped every possible avenue, always considering first and foremost appropriations from the State legislature. We have been fairly successful in emphasizing to the State legislature the importance of research facilities as well as support for teaching facilities. Actually, for the past 10 years we have built more rapidly for research than we have for teaching. However, we are now at a point where we must place classroom facilities and office facilities higher on the priority list than buildings for laboratories and research activity. Thus I cannot emphasize too strongly my support for the consideration of $100 million per year for building facilities in the medical and biological fields.

The urgency of these needs has been set forth clearly in the statement by the President's Science Advisory Committee, entitled "Scientific Progress, the Universities, and the Federal Government," November 15, 1960:

"The dramatic expansion of science in this country has outrun our ability to provide up-to-date space and equipment for either research or teaching—still less for the two together. While in the end men are more important than facilities, the immediate bottleneck today, in many fields and in many universities, is in buildings and equipment. * * * These propositions carry a moral for both universities and the government. Neither side should expect to develop first-rate programs without appropriate space and equipment, and on both sides an increased emphasis on investment in facilities is desirable."

This statement is very general, and I realize that I have emphasized facilities for basic research in the biological field, but I agree with Dr. Radvin, who stated last year:

"There can be no doubt but that the most productive line of medical effort has come from a clearer understanding of the biological processes which control normal function and the deviation from the normal which comes about as a result of disease.

I would like also to emphasize that library space is a very important part of all our research programs. This importance of the library is often forgotten, although I want to say that at Wisconsin we have been fortunate in having recognized that each college needs important library space. For many years the college of agriculture has maintained a very outstanding library for the biological area. We are now in the midst of initiating a new library for the medical school. We built a new general library a little over 10 years ago, but the space is rapidly becoming inadequate—and if a small portion of the total grant could be allocated to library space, I am sure it would greatly facilitate research activity in many universities.

May I add that I was a member of the first National Advisory Heart Council, and some of you remember that this council was given a small amount for building facilities. I visited institutions at that time and realized how desperate the need was. The few million dollars that were allocated through this council was a great help and we see the benefits today. But the rate of development since that time has been so rapid that a hundred million dollars today could be spent in a very, very effective way. In fact, it would not only be effective, it would determine whether we would be allowed to continue research activity in this country, especially in the biological field, at a rate necessary to meet the demands from all angles.

The question of matching funds is also an important one. Certainly, it would be helpful to have grants that would require a 50-percent matching fund from the institution. However, it would be much better to consider, during this emergency and urgency of building, a variable matching relationship. In some cases a total grant might be most significant in getting certain buildings under construction; in other cases there might be a variable matching fund between 25 percent and 50 percent from the institution. I have no strong feelings on this matter, except that the ratio should be considered in line with the urgency of the buildings that are needed.

Dr. RUSCH. From 1954 to 1958 I served on the National Advisory Cancer Council, during which time I became familiar with the needs of research laboratories in various parts of the country.

Research may be hampered by various factors. The lack may be in trained personnel, in good ideas, or in sufficient space to test new ideas. A laboratory in which the pressing need was for space is the McArdle Memorial Laboratory, and I shall cite our experience to illustrate the predicament.

Imaginative people with promising ideas were in good supply, but we lacked space to test new leads. A grant from the Health Research Facilities Branch of the NIH could not solve our problem, since the university was unable to provide the required equal matching funds. The constantly expanding student population has made it necessary for the university to give first priority to the construction of buildings needed for teaching and for research directly associated with the training of students.

The following figures illustrate the extent of the university building program: For the period 1951–61, the University of Wisconsin spent $36 million for buildings, of which $14.2 million was for research and $21.8 million for teaching. For 1961–63, $40.8 million has been committed ($22.1 million for research and $18.7 million for teaching). The proposed figures for 1963–69 are $99.5 million ($44 million for research and $55.5 million for teaching).

It is obvious from these figures that the University of Wisconsin not only has been very active in its building program, but that it has been and is contributing large amounts for research facilities used directly by students. These requirements are at present so great that the university could not justify the expenditure of equal matching funds for the construction of a building to be used exclusively for research on a specific disease, especially when one considers that the disease is not limited to Wisconsin but is of worldwide importance. If each State required a given research center of this type, then each State should be expected to assume its fair share of the financial burden, but in this case it seemed unreasonable to expect the State to match the Federal funds for a new cancer research building.

Efforts were, therefore, made to obtain matching funds from private sources, but it was soon evident that it would take years to raise sufficient funds to match a health research facilities grant on a 50–50 basis—far longer than such grant could be held open. Moreover, such delay in the expansion of the cancer research effort did not appear justified. Fortunately, funds recently made available by the National Institutes of Health, from the fiscal 1961 appropriation for special cancer research facilities, will cover most of the cost of a new building for cancer research at the University of Wisconsin.

Although the principle of a 50–50 split of the construction costs between Federal and local sources has in most cases been satisfactory,

our situation illustrates the need for some flexibility in this rule for exceptional cases. In our new building approximately 25 percent of the total costs will be supplied from local funds. Other cases with problems comparable to ours undoubtedly exist, and I advocate making provisions in bill H.R. 4999 for exceptions. However, to prevent any abuses and to answer possible criticisms, I urge that the conditions under which such exceptions might be granted be clearly defined.

The following guidelines are proposed in assessing any request for an exception:

1. The evidence of outstanding research potential, as determined by a committee of scientific experts, should be sufficient so as to rate the highest priority.

2. Adequate evidence must be submitted that matching funds on a 50–50 basis had been sought diligently but could not be obtained.

3. Adequate proof must be given that the applicant institution is doing its part in providing funds for the construction of needed buildings.

4. The facility in question must be devoted to an aspect of health research of benefit to all mankind but of a type for which there is no need to have one in every State; there would, therefore, be no just reason to require the local source to provide full matching funds.

The number of structures that would meet all the above requirements is not large. For exceptional cases, I believe that Federal support might go as high as 75 percent when adequate proof of merit and need has been established according to the above points.

In addition, I wish to stress the need for an increase in the total funds provided for research facilities. Within the last few years there has been a significant increase in the availability of research funds and of trained, expert scientists. It is evident that a comparable increase in research facilities is now needed to house the new projects and personnel. If we are to proceed most effectively in the struggle to conquer disease, it is necessary to double or triple the funds now available for construction.

Inasmuch as adequate library facilities are an integral part of research, I also urge that bill H.R. 4999 be amended to permit construction of library facilities associated with health research facilities, such allocations to be made on a 50–50 matching basis only.

It is my understanding that another part of bill H.R. 4999 will provide funds for the construction of teaching facilities at medical schools. Because more students will be needed to furnish sufficient numbers of physicians to care for the expanding population and to conduct clinical research programs in the various fields of medicine, I endorse this proposal enthusiastically.

Thank you, Mr. Chairman, for the privilege of presenting this material.

Mr. MACDONALD. Thank you very much, Doctor.

Are there any questions?

Mr. YOUNGER. I have one question. You are particularly interested in the cancer research?

Dr. RUSCH. Yes, sir.

Mr. YOUNGER. You ask for more money. Did you hear the Secretary of HEW say the other day that Congress had appropriated more money for HEW in health and research than they could spend?

Dr. RUSCH. I did not hear his testimony. However, in answer to your question, there were insufficient funds for facilities construction.

Mr. YOUNGER. That is all, Mr. Macdonald.

Mr. MACDONALD. Mr. Collier?

Mr. COLLIER. I have just one question, Doctor. In the final paragraph you point to the need for increase in total funds providing for research facilities.

It is always difficult to measure the merit of this type of legislation in dollars. Unfortunately, we who are legislators are obliged to do that, distasteful as it might sometimes seem.

Where would we expand the projected cost of this bill without cutting in some other area? In what area of any Federal program would we remove from the established budget enough to take care of this expanded need for these funds?

Dr. RUSCH. Sir, if I could answer that question, I would probably be in a field other than I am now engaged in.

Mr. COLLIER. I might suggest that in looking at our national debt and the demands before Congress this year that perhaps I should, too. That is all I have.

Mr. MACDONALD. I just have one short question, Doctor. In your statement, on page 2, you say that, when special circumstances are present, certain guidelines would be followed; No. 1, you say, as determined by a committee of scientific experts. From what field would these scientific experts come? Would they be governmental scientific experts?

Dr. RUSCH. I had in mind that this would be done by the Council on Health Research Facilities that now exists or a comparable committee.

Mr. MACDONALD. What is their present function?

Dr. RUSCH. Their present function is to determine the needs of various institutions and to assign priorities to the various approved applications. I think everyone who has had occasion to deal with this committee has felt that they have acted very wisely in every case.

Mr. MACDONALD. You would indicate that that would be the committee that you referred to in your guidelines?

Dr. RUSCH. Yes; the only reason I did refer to them specifically is because I was not certain whether the committee would be reconstituted.

Mr. MACDONALD. Thank you very much, Doctor.

Dr. RUSCH. Thank you.

Mr. MACDONALD. Is Dr. Poor here of the University of Florida? Will you come forward, sir?

STATEMENT OF RUSSELL S. POOR, PH. D., PROVOST, J. HILLIS MILLER HEALTH CENTER, UNIVERSITY OF FLORIDA, GAINESVILLE, FLA.

Dr. POOR. Mr. Chairman, members of the committee, my name is Russell S. Poor. I am provost of the J. Hillis Miller Health Center of the University of Florida. We have in this center four colleges,

the college of medicine, nursing, and health related services, and pharmacy, and a 400-bed teaching hospital.

I would like to make it clear that I am a Ph. D. and serve the function in this university as coordinator of these colleges, somewhat in the same fashion they do in other institutions by vice presidents.

I have a statement to submit. I will skip over it in the interest of time and catch some of the highlights.

Mr. MACDONALD. It will be received for the record.

(This statement submitted by Dr. Russell S. Poor, follows:)

STATEMENT SUBMITTED BY DR. RUSSELL S. POOR

Mr. Chairman and members of the committee, my name is Russell S. Poor. I am provost of the J. Hillis Miller Health Center, University of Florida, Gainesville, Fla. Our health center consists, at present, of four colleges (medicine, nursing, pharmacy, and health related services) and a 400-bed teaching hospital and clinics. A new college of dentistry is anticipated within a few years. I am a Ph. D. and my administrative duties are those of a vice president coordinating for the president areas of the university having to do with health. I am honored to have an opportunity to speak briefly concerning H.R. 8833, introduced by a good friend of the University of Florida, the Honorable Charles E. Bennett from Jacksonville, Fla., and the companion bills H.R. 4999 (Harris) and H.R. 8774 (Staggers).

Need for medical and other health related teaching facilities

Construction needs for the 85 medical schools in this country have been a matter of studious concern by the American Association of Medical Colleges for several years. These studies are reported annually in the educational number of the Journal of the American Medical Association. No other studies are as detailed as those of this organization.

The latest data on construction needs for educational facilities as of 1960 were presented and addressed to all deans of U.S. medical schools as memorandum No. M62-1 by the AAMC dated January 5, 1962. I have these data broken down for the southeast region.

The dollar value of needed new construction and modernization of existing structures is $518 million, over $100 million a year for 5 years. It is estimated that this sum could make possible an increase of space available to entering first-year medical students so as to increase their number from 8,188 to 9,894, or slightly more than 20 percent. Sixteen States in the southeast region need $129.6 million, or about 25 percent of the total estimated. This sum would enable the 27 medical schools in these States to increase the number of their first-year medical students by 338.

Planning and constructing a new medical school is a time-consuming operation. At the University of Florida we devoted a full year (1952-53) to the study of our State's need for health related personnel and the role of the university in medical and related education. During this period a philosophy of medical and related education was designed to meet the State's needs. Likewise, schematic plans were developed for the structures required by the type of education adopted. The State legislature provided funds for construction and necessary teaching equipment the next year. Classes were admitted to the new colleges of medicine and nursing in September of the fifth year (1956) following the initiation of planning. Our 400-bed teaching hospital and clinics received its first patients 26 months later, or 6 years and 7 months (October 28, 1958) after the initiation of planning.

If we say 5 years are required from the beginning of planning to the acceptance of a first-year class of medical students, then it will be 9 years from the same point in time before the first class can be graduated. Add an intern year and 2 years of military duty and it will be nearly 12 years before these first students are ready for general practice. To become a specialist from 2 to 5 additional years, or a possible total of nearly 17 years, are required before a surgeon is competent to practice.

It is for these reasons that time is so very important in planning space for the production of practicing physicians. This is especially true when new schools are concerned. As a rule, the modernization of old structures can be accom-

plished in somewhat less time and while classes continue, but there are enough exceptions to make this a bad risk. It is not within the purview of our discussion to analyze such pertinent questions as the time required to obtain a quality faculty or the recruitment of well qualified applicants.

AAMC Memorandum No. M62–1, referred to above, has other interesting data relative to non-Federal matching funds. Only 2 of the 85 schools (Puerto Rico not included) in the United States believed they could raise as much as 66 percent of the needed funds. Eight schools did not reply; 8 said they could raise no non-Federal money from any source; 50 thought they could raise up to one-third; and 17 believed they could obtain up to 50 percent of the construction funds needed.

It is significant to examine the estimates made by medical schools of the Southeast (region II as used by NIH, plus 3 States making the 16 so-called compact States of the Southern Regional Education Board). There are 27 medical schools in this region (17 public, 10 private). With regard to obtaining non-Federal matching funds, 1 of the 27 said it could obtain no matching funds while 7 did not answer the question, probably indicating the same thing. Nineteen out of 27 schools (70 percent) in this region believed they could obtain about one-third of their total needs. In other words, 70 percent of the 27 southeastern medical schools feel they need a 2 for 1 ratio of Government funds to local money.

All States in the southeast region are generous percentagewise in their support of education from tax sources. The real difficulty is a relatively lower tax revenue rather than an unfavorable attitude toward or an unwillingness to suport medical education. The need is great but the ability of these States to provide matching funds is relatively low.

Scholarship grants (pt. C, p. 15)

It is a familiar fact that the cost of medical and dental education is a cause for many students refusing to enter these fields and likewise a cause for many dropouts. The American Association of Medical Schools endorses a strong program of financial assistance combining nonrefundable grants and loans.

The ninth annual legislative work conference sponsored by the Southern Regional Education Board in August of 1960 (1959 data provided by AAMC) summarized the problem of financial assistance to medical students as follows:

"Today the South's need for doctors is one of its most pressing problems. But the number of applicants to its medical schools has dropped steadily since 1957.

"As the need for doctors increases and the number of medical students decreases, the cost of medical education to the student is rising and discouraging still more potential students from entering the long training program.

"The cost of medical training in the South is on a par with the cost of such training in other parts of the country.

"Four years of medical education in the South now costs an unmarried student $9,689. The cost for a married student increases to $12,397 and the figure goes up proportionally as the student's family gets larger.

"There are several standard sources of funds for the medical student. Eighty percent of his costs are defrayed by gifts or loans from family. Other sources include his own earnings, his wife's earnings, and in-law contributions; loans from the medical school or local financial agencies; scholarships from medical school or other organizations, and other miscellaneous sources, such as the GI bill and savings prior to the time of entering school.

"Though scholarship aid is not readily available in all cases, roughly one-fourth of the students in all U.S. medical schools receive some amount of scholarship aid.

"The students themselves, in a recent poll, suggested more loan funds to be paid back after the student began practicing.

"Any such program should—

"(1) Leave the students free to select the school of their choice.

"(2) Impose no obligation upon students' postgraduate training or practice prerogatives.

"(3) Be sufficient so that the student is not forced to turn to extracurricular work to the (detriment) of his study effort.

"(4) Be sufficient so that upon graduation the student's accumulated debt does not unreasonably hamper his further education.

"(5) Leave the medical school free to determine the balance between loan and scholarship assistance which is appropriate for the individual student."

In addition to the cost to the student, there is, of course, a considerable cost to the professional school and the university over and above income from tuition. "A fairly well established current figure shows that it costs the medical school between $2,000 and $3,000 per undergraduate medical student per year," according to Dr. Lee Powers of the AAMC.[1]

Therefore, the provision in the bill under discussion (H.R. 8833, pt. C, sec. 740(D), p. 17) which recognizes this cost to the institution by proposing an allowance to each school of "$1,000 for each of its students who is awarded a scholarship" is both realistic and commendable.

Extension and strengthening of health research facilities (p. 18)

From my knowledge of universities and hospitals in general, and those in the 16 southeast regions in particular. I am convinced the annual rate of permissible Federal spending under the Health Research Facilities Act (Public Law 87-395) should be increased to at least $100 million per year if we are even to approximate estimated needs in this vital area. There are a number of ways of reaching this conclusion.

First, evidence has been, or will be, presented to show that for each dollar of operating expense for research by medical schools there should be $1 available for research facilities construction. During the 5-year period 1957-61, operating expenditures increased about $320 million. In this period the granting program under this act produced $150 million, which was less than 50 percent of the capital construction needed, if we assume the ratio cited above to be valid. I believe the ratio of $1 for capital structure for $1 of operating expense in research areas is realistic. We are indebted to Dr. Robert A. Moore, president of the Downstate Medical Center of the State University of New York, for this convenient figure.

Second, data collected in early 1961 shows an anticipated need for health research facilities construction matching funds on a 50-50 basis for 1963, 1964 and 1965 to total over $424 million, or approximately $141 million per year.[2] Of course, the sums institutions expect to apply for and the overall dollar value of finally approved grants are two different things, as was pointed out in the testimony cited. Recognizing some shrinkage from total applied for to the total approved, $100 million annually would appear not to be excessive.

It should be emphasized that this $141 million is the total for those institutions which believe they can obtain funds necessary to match this amount of Federal money dollar for dollar. Eight institutions did not respond to the questionnaire. None of the 27 medical schools in the 16 Southeastern States considered it likely that they could obtain matching funds up to 50 percent[3] for new construction or remodeling of old medical school buildings. Of the southeastern medical schools 70 percent (17) believe they can secure matching funds up to 33⅓ percent.

Third, there is the strain placed upon State resources to meet the demands of their total needs for higher education. This situation is especially acute in a number of Southeastern States. I have visted within the last few years some 30 to 32 institutions of higher education in this region. They have crowded every square foot of space available for research. Some situations I have seen are incredible. It is considered reasonable policy to allow a minimum of 200 square feet per research worker, yet I have seen many situations where considerably less than one-half that amount per man is all there is available. When the Health Research Facilities Act was enacted into law the accumulated backlog of need up to that date, 1957, was doubtless in excess of $700 million because the $150 million supplied by Federal matching during those 5 years

[1] Southern Regional Education Board, Ninth Annual Legislative Conference Report, August 1960, p. 4.

[2] 87th Cong., 1st sess., hearings before the subcommittee of the Committee on Appropriations, U.S. Senate (for 1962), pp. 1075-1079.

[3] AAMC Memorandum No. M62-1, issued Jan. 5, 1962.

produced projects valued at $671,418,438; i.e., the 323 institutions receiving Federal funds raised $521,431,056.[4]

When we started construction of our medical sciences building at the University of Florida in January 1955 we planned about 25 to 30 percent of our space for research and most of that was for the preclinical sciences. We reasoned we should be able to obtain State funds more readily for clinical research space. This has not happened because of the urgent need elsewhere on our campus. Now our original space is badly overcrowded. Some relief has come from the occupancy (September 1961) of a new basic research wing of 22,736 square feet. One-half the cost of this building was provided by Health Research Facilities Act funds. This new building, however, is hardly one-half the size we originally planned, once again because we had insufficient matching funds. We are not ungrateful for what we have but we certainly are not meeting the needs of our staff nor are they contributing what they might to the research needs of the country.

Fourth, in the hearings before the 87th Congress previously cited[5] it was shown that the estimated needs for Federal funds on the current 50–50 matching basis for 1963, 1964, and 1965 construction, exclusive of hospital needs, amounts to $364,683,363 for health-related educational and research purposes, which is somewhat in excess of $100 million per year.

As a university administrator responsible for health affairs, I am deeply concerned about the poorly understood term "balance" in medical schools. By "balance" is meant the ratios of expenditures resulting from the teaching, research, and service functions. As has been pointed out, unfortunately, there is no concrete evidence to show whether the emphasis on sponsored programs and the financial growth of medical schools during the last 4 years has been healthy or unhealthy. Some schools are spending more than five times as much for research as they are for undergraduate medical education, and in some departments the full-time research workers outnumber full-time faculty members by more than 10 to 1."[6]

While I firmly believe the National Advisory Council for Health Research Facilities should have available at least $100 million per year to meet research construction needs, the facts seem to prove that medical education needs a like amount as was stated earlier. The bill we are referring to today calls for $45 million annually for new teaching facilities and $15 million for replacement or rehabilitation of existing teaching facilities for medical, public health, and dental schools. The third stipulation is $15 million for new teaching facilities for the training of dentists.

Here is another instance where the "balance" factor enters. The backlog of needs in both educational facilities and research facilities is so great as to make one wonder whether grants to one in excess of the other is further exaggerating the imbalance between the two which probably exists in several universities today. Approximately three times as much money is allocated by the medical schools for research facilities as for teaching[7] at the present time.

Inherent in all the foregoing designed to justify matching grants for new teaching facilities, scholarships for needy students, and research facilities is the need for library facilities which will be demanded by any program which increases the number of academic and research personnel and students.

Few quantitative data are available to substantiate the need for more library facilities for health-related fields. As one visits these libraries, only the most recently built seem to be adequate in size. In our own case at the University of Florida, we provided space for 80,000 volumes when our health center opened in 1956. We now have over 90,000 volumes. For medical students our library is used largely for reference work only since each student has a private study cubicle. Conditions vary from school to school but it is safe to say most of them are in serious need of space.

The latest study was made by questionnaire in 1957 as reported by Fry and Adams.[8]

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[4] 87th Cong., 1st sess., op. cit. table on p. 1074.
[5] Op. cit. table on p. 1078.
[6] Journal of the American Medical Association, vol. 178 (Nov. 11), 1961, p. 590.
[7] Idem., p. 586.
[8] Fry, Alderson and Adams, Scott, "Medical Library Architecture in the Past 50 Years," Bulletin of the Medical Library Association 45: 471–479 (October 1957).

Some of their major conclusions were as follows:

"Of the libraries replying on schools, 45 of them, they range in age from 1834 to 1957: 11 percent were built before 1900, 9 percent between 1910 and 1920, 30 percent in the twenties, 13 percent in the thirties, and 35 percent since World War II.

"These libraries have tended in the past to double in size every 12 years—at least from 1927 to date.

"The report shows that 88 percent of the libraries are planning significant alterations; 27 percent are adding stacks, and 31 percent want new libraries very soon. And if previous patterns are followed, 20 percent of these new libraries will be out of space within 9 years.

"In the last 50 years the external form of the library has followed the dictates of surrounding architecture or current styles of the time. There has been a gradual growth in the size of libraries in terms of square feet. Material has grown at the geometrical rather than an arithmetical rate. Libraries are coming downstairs and nearer the entrance, and while there is of course intelligent and unintelligent planning, the overwhelming need is simply for more and more square feet."

Finally, if I may, I would like to express a personal opinion about the proposal in H.R. 8833 and its companion bills to establish a new National Advisory Council on Education for Health Professions (sec. 725, p. 11). As you know, the National Institutes of Health has a National Advisory Council for Health Research Facilities. This Council has functioned most efficiently at minimal cost to the Government since 1957 in the administration of grants for research facilities in medical schools and related fields.[9] Especially in medical, dental, and public health schools and probably also in osteopathic schools, research and instruction are so intimately associated as to make the difference only one of the detail when planning facilities for housing educational activities. The membership of the proposed new National Advisory Council on Education for Health Professions could not differ in any significant way from that of the National Advisory Council for Health Research Facilities. These two Councils would have very closely related functions and would be unnecessary duplication. The latter Council has a tremendous amount of data and experience which is almost identical with that which would be required by the proposed new Council. Why multiply administrative costs through a duplicating organization? Also, since the membership of NIH councils is drawn largely from universities and the number of such persons now serving on study sections and councils is very considerable and university personnel qualified to fill such assignments are in short supply, duplication of effort should be carefully avoided.

Dr. POOR. Thank you, sir.

In a recent survey that was issued on January 5 by the American Association of Medical Colleges, the total value of needed new construction and modernization of existing structures was estimated by the schools to be $518 million. This was considered on a 5-year basis in excess of $100 million per year. It was estimated that this would increase the number of students entering the first year classes in medical schools by 1,706.

I would like to emphasize the southeastern section of the country, which I have the honor to represent, as broken out of these figures which did not appear in the original memorandum as it was issued but I have asked the association to do that for me and these figures, I think, will be helpful.

The estimate for the 27 schools that are in the Southeastern 16 States making up the area that is covered by the Southern Regional Education Board was for $129.6 million, or about a quarter of the total estimated for the country. Of these schools, 17 are State schools and 10 are private.

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[9] 87th Cong., 1st sess., hearings before the subcommittee of the Committee on Appropriations, U.S. Senate (for 1961). See table on p. 1080.

It has been stated here a number of times the length of time required to produce graduates of these schools, from the time appropriations are made, and I think it is important to emphasize that this was our experience in Florida. We opened our school in 1956, in September, and our period of time from the beginning of planning was 5 years before we accepted the first student.

If one projects this student on through graduation to the M.D. and internship, a couple of years in the military service and perhaps even going on to an advanced specialized surgeon, as much as 17 years would be consumed in this process.

Among the Southeastern States, 70 percent of them felt that the best they could do was to raise no more than one-third of the amount as a matching fund. The 50–50 matching plan then perhaps, if one takes a national survey and in particular the southeastern survey, apparently would impose upon them a task which they feel they could not assume.

In our own case, the State of Florida financed the entire medical school with two exceptions.

We received some Government funds in helping us to construct the rehabilitation center approximately a little less than a quarter of a million dollars and we have recently had a grant that provided us one-half of the funds necessary to produce a basic medical science wing under the Health Research Facility Act. This building was only one-half the size we had planned because we could not raise any more matching funds.

When we built our school, which is new now, having graduated just two classes, we provided more research space for the basic sciences in medicine than we did for the clinical sciences because we felt that it would be easier for us to get these supplemented through State funds and private grants.

Up to this time we have been unable to do this. So it is an honest estimate to say that every available square inch in our brand new building is jammed full of research at this moment and we still do not have the proper amount of clinical research going on.

We are very grateful for what we have.

This appropriation from the State of Florida will approximate $30 million up to this point and the needs of the rest of the university and the other universities in the State are just so great that they will not place us on the priority list.

There is a point or two that might be made in regard to the scholarship aspect of this bill which I have not heard in today's testimony, although it may have been given earlier. This was the report of the Ninth Annual Legislative Work Conference supported by the Southern Regional Education Board and the data was published in August of 1960. A number of the familiar statements about the need for doctors are contained therein but I have some exact figures that are given on the estimate of cost for medical students at that time. Four years of medical education in the South now costs an unmarried student $9,689. The cost for a married student increases to $12,397 and increases further, of course, as his family enlarges.

This legislative work conference also reported a survey of all the students in the upper years of medical schools in the Southeast and I thought some of the conclusions made by the students survey might be helpful. I will mention just a few.

They should leave the student free to select the school, impose no obligation upon the student postgraduate's training or practice prerogatives. It should be sufficient so that he should not have to do outside work.

There was a time when work outside of medical school was possible but we find that this is highly impractical now. The speed and the content of medical education is so great that this is very impractical. We find students breaking their health if they are permitted to do so, so we have practically eliminated such outside work. It should be sufficient so that he would not be saddled with a great debt when he leaves. This is the student speaking now. It should leave the medical school free to determine the balance between loan and scholarship assistance which is appropriate for the individual student.

Of course, in addition to the cost to the student himself, there is the cost to the institution and this has been taken into account by the bill, H.R. 4999.

I recognize also the companion bill of our friend of the University of Florida Charles Bennett, H.R. 8833, from Jacksonville, Fla. This estimate has shown that in the South the institutions shoulder a cost of somewhere between $2,000 and $3,000 per student. These are just for the first 4 years of medical education, not having anything to do with the advanced residency years. Therefore, the bill provides to give the institution $1,000. While, from the standpoint of the total situation over the country, this may not be realistic, we do think that State institutions should, wherever possible, shoulder as much of this cost as they can. We think $1,000 is, in the light of that consideration, a fair sum.

I will not repeat some of the evidence which has been given here today, that of Dr. Moore, with which I am familiar.

I would call your attention to some facts that were presented before the 87th Congress, 1st session, that showed that the data collected in early 1961 showed an anticipated need for health research facilities construction and matching funds on a 50–50 basis for the 3 years, 1963, 1964, and 1965, a total of about $424 million. Averaged over the 3 years, this is $141 million per year. Now, this is what we thought they would apply for. It does not mean that many would be improved but we think with the shrinkage that comes from this kind of activity on the part of a very fine Council, the Health Research Facilities Council, that the $100 million is a little more realistic and represents even considerable shrinkage from what the schools estimate.

The inability of States like our own to be able to raise the 50 percent matching funds is based upon many considerations with which you gentlemen are familiar. There has been a tremendous expansion of university and junior colleges in our State and the costs, the rising costs of other things, has made such a demand on the tax dollar in the Southeast that this becomes an extremely difficult problem for them in order to move as they think they should move, I am sure, in the direction of the support of medical education.

The percentage contribution to higher education in the Southeastern States is very good but the total tax revenue is such that they fall short of what they would like to do.

It was also shown in the estimates that the need for Federal funds on the current 50–50 matching basis for the 3 years I mentioned, 1963, 1964, 1965, exclusive of hospitals, is something over $364 million for

both education and research purposes. This, too, is in excess of $100 million a year.

Finally, I would like to say a word about the libraries which are not specifically named in the bill. But the health related facilities that are provided for in the bill might conceivably include libraries. It is certain that when you increase the research potential we feel you should seriously consider the educational teaching facilities because of this thing which we, as university administrators, hardly know how to evaluate. It is tied up with this thing we call "balance," and we do know that the men to do the research must be produced in the schools. These things require library resources.

In our own case, just a few years ago now, we opened our school with a library capacity of 82,000 volumes and we now have 92,000, and it is going to stifle the growth of our colleges if we cannot expand that.

I have reported in my written statement the last study which has been made in the Nation on medical libraries, dated 1957. I will not take the time to detail it here, but it will be available when you study this legislation.

One final word. I think the Health Research Facilities Council, when they deal with educational facilities, is dealing with the same kinds of data and requires the same kind of people to make these studies.

The bill provides for a new council to deal with educational services. It is my opinion that this is not necessary. The Health Research Facilities Council has done a fine economical job and they can handle this additional item when the time comes.

Thank you very much for the opportunity to make this statement, Mr. Chairman.

The CHAIRMAN. Thank you, Doctor, for your statement.

Are there any questions?

Mr. COLLIER. I have one question.

Doctor, you said that you thought it would be in the best interest of the program to permit the medical school to make its determination as to whether a scholarship should be an outright grant or given to the student on a loan basis.

Dr. POOR. I quoted the student survey in the Southeast as saying that.

Mr. COLLIER. This, of course, then, would entail in the case of outright grants, I presume, the usual very lengthy and proper financial statement of the parents?

Dr. POOR. That is right. It would be a means test.

Mr. COLLIER. I have seen some of these college scholarship forms. The opponents of medical care programs based upon need have attacked it on the ground that requesting a financial statement to establish need was indeed embarrassing, to use the argument lightly, for an elderly citizen to fill out such a financial statement.

I wonder if you can help me reconcile why it would be any different to ask a potential doctor to file a financial statement to determine need.

Dr. POOR. I do not share the view that this would be embarrassing. I think the need should be justified.

Mr. COLLIER. Thank you, sir.

The CHAIRMAN. Doctor, thank you very much. We are glad to have your statement.

Dr. Franklin M. Foote, commissioner of the State department of health, Hartford, Conn.

STATEMENT OF FRANKLIN M. FOOTE, M.D., COMMISSIONER, STATE DEPARTMENT OF HEALTH, HARTFORD, CONN.

Dr. FOOTE. Mr. Chairman, I appreciate your courtesy in permitting me to place on record a statement which was actually prepared by the Honorable John Dempsey, Governor of the State of Connecticut, who would have been here today himself, but he had commitments that prevented his coming either today or tomorrow. He therefore asked that I extend his greetings to the members of the committee and place his statement on record.

I am commissioner of health of the State of Connecticut, and come from Wethersfield, Conn. It is a very fast-growing State in recent years, highly industrialized.

You might wonder why a State with 1 physician for every 640 people feels the need for more doctors and more dentists. But actually we do not have too many doctors even in our biggest cities where they are more concentrated. If you try to get an appointment with a physician in one of our largest cities, you may find you have to wait some period of time.

In five of our eight large counties, the five more rural counties, we have a definite lack of doctors, and this lack has become worse during the past 10 years. In Tolland and Windham Counties, respectively, it is down to 1 physician to 1,100 persons, and 1 to 2,200 persons.

During this decade when the population increased 26 percent we were able to maintain even this proportion of physicians only because of importing a large number who had their training from outside the United States which represented a 48 percent increase in physicians licensed from outside this country.

Many of our general hospitals in Connecticut, which have internships approved, are unable to fill their quota of interns. The shortage was shown in an article which appeared in the September Reader's Digest in 1961 and we are rather embarrassed that the writer of the article documented the fact that in one of our hospitals they had to wait 3 hours before an emergency physician who was on call came to take care of a person who had been injured.

Our dentist per population ratio has dropped 12 percent between 1950 and 1960, and again it is much more severe in the rural areas.

Because of these situations, the Connecticut State Citizens Committee for a Medical-Dental School was organized. The committee had before it recommendations which had been made by the New England Council on Higher Education recommending medical schools in both Massachusetts and Connecticut.

In the same year, the Connecticut Legislative Council, factfinding agency of the general assembly, stated that there is no question of need for a medical-dental school. It is merely a matter of financing.

For these reasons, a year ago Governor Dempsey recommended to the general assembly an appropriation of $2 million toward starting a medical-dental school in Hartford County as part of the University of Connecticut.

This recommendation was endorsed by many professional and civic groups in the State, was given strong support by both major political parties and was approved by the general assembly.

A commission is at work right now looking for a site to place this medical-dental school. Although the appropriation of $2 million provides an excellent start on this important project, we have no hesitancy in saying that Connecticut will be able to do more, have a larger school and have it sooner if Federal funds are made available under the provisions of H.R. 4999.

Governor Dempsey wanted me to stress his very strong support of the scholarship provisions of this bill.

We know that from our guidance people in the schools of Connecticut that there are many talented, able young men and women who do not even consider going to medical school or dental school because they know they cannot afford this.

We are sure that members of your honorable committee will agree that it is not a healthy situation to have 43 percent of medical students come from the top 11 percent of our social economic strata, as is now the case. It is unfortunate, too, that 60 percent of the students in medical school where the work is most demanding and time consuming must obtain part-time outside work in order to pay for their expenses.

Likewise, with regard to the graduate public health education which would be supported here, we have a great many vacancies both in the State services and in our municipalities for trained public health workers.

So we, therefore, are strongly in support of provisions which would help schools of public health in this bill.

Thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you, Doctor. We appreciate having your testimony.

Are there any questions?

Dr. FOOTE. I appreciate your courtesy, sir.

(The statement of Gov. John Dempsey follows:)

STATEMENT BY GOV. JOHN DEMPSEY OF CONNECTICUT

Connecticut, the fastest growing State in the highly industrialized Northeast, is concerned about the availability of facilities for medical, dental, and public health education. We feel that it is of the utmost importance that such facilities be increased to meet an ever growing need.

Since the end of World War II, leaders of the medical and dental professions have called attention to the fact that it is becoming increasingly difficult for Connecticut young people to obtain medical and dental education.

Yale University's outstanding medical school, in New Haven, Conn., is able to accept, at the most, only 17 Connecticut students each year because of heavy admission pressure from other parts of the Nation.

It is significant that the State of Vermont, which has a medical school as part of its State university, puts 35 percent more of its students, per 100,000 population, into medical school than does Connecticut.

Connecticut's ratio of 1 physician to 640 persons probably exceeds that of a number of States, but such data gives no comfort to the 5 of Connecticut's 8 counties where the ratio dropped during the decade between 1950 and 1960. Connecticut's 2 least populous counties, Windham and Tolland, have, respectively, a ratio of 1 physician to each 1,124 persons and 1 to each 2,200.

During this decade, in which the State's population increased by 26 percent, even this ratio of physicians to population was maintained only because there was a 48-percent increase in the licensing of physicians who had received their training outside of North America.

We have no way of knowing, of course, how many young people have abandoned consideration of a career in medicine or dentistry because of the scarcity of educational facilities, even though they have an interest in such a career and are intellectually suited to pursue it.

We do know that many of our general hospitals, approved for internships by the Joint Commission on Accreditation, have been unable to obtain their

quota of interns during the past 2 years. A shortage of physicians for emergency service in one Connecticut hospital was noted in an article in the September 1961 issue of Reader's Digest.

Connecticut's dentist per population ratio dropped 12 percent between 1950 and 1960 and, as in the case of the physician per population ratio, the drop was greatest in the more rural areas.

Because of this situation, a Connecticut State Citizens Committee for a Medical-Dental School was organized more than 2 years ago under the chairmanship of Mrs. Alexander J. Keller, of Bloomfield, Conn.

This committee had before it a specific recommendation made in 1959 by the New England Board of Higher Education that "Massachusetts and Connecticut extend their programs of publicly supported higher education by establishing medical and dental schools."

In the same year, 1959, the Connecticut Legislative Council, factfinding agency of the Connecticut General Assembly, came to this conclusion: "There is no question of the need (for a medical-dental school). It is purely a matter of finances."

For these reasons, I recommended to the Connecticut General Assembly early in 1961 an appropriation of $2 million toward starting a medical-dental school in Hartford County as part of the University of Connecticut. The recommendation, endorsed by many professional and civic groups and given strong support by both major political parties, was approved. A commission has been named to choose a site and is now working at this task.

An appropriation of $2 million provides an excellent start on this important project. Connecticut can do much more, however, if Federal funds are made available under the provisions of H.R. 4999.

Obviously, a larger school can be built and put into operation in a shorter amount of time if the State of Connecticut does not have to depend on its own funds alone. It is also obvious that such a school as is contemplated in Connecticut will greatly benefit all of New England and, indeed, the entire northeastern region, even though in all probability priority in admissions would be granted to Connecticut students.

The scholarship provisions of H.R. 4999 are of great importance because of the many highly qualified students who are now prevented from obtaining graduate education due to the cost.

I am sure the members of your honorable committee will agree that it is not a healthy situation to have 43 percent of medical students come from the top 11 percent of our socioeconomic strata, as is now the case. It is unfortunate, too, that 60 percent of the students in medical school, where the work is most demanding and time consuming, must obtain part-time outside jobs in order to pay their expenses.

Graduate public health education prepares persons who are needed in Federal, State, and municipal health programs. There is a great shortage of all kinds of skilled workers who could help close the costly timelag between scientific discoveries in the laboratory and the application of this hard-earned preventive knowledge in our homes and communities.

These workers are not sufficiently well paid to be able to endow their professional public health schools to the extent that schools of business and engineering, for example, have been endowed.

Because Connecticut now has many vacancies for trained public health workers, I strongly urge your support of provisions of H.R. 4999 which would aid schools of public health.

The CHAIRMAN. Let the record show that Dr. Newman C. Taylor, chairman of the Legislative Committee, National Dental Association, is present observing the hearings, showing the interest of the association in this legislation.

This concludes the witnesses for today.

Tomorrow morning at 10 o'clock, the committee will meet, at which time we will hear the representatives of the American Medical Association.

The committee will adjourn.

(Whereupon, at 5:20 p.m., the committee adjourned, to reconvene at 10 a.m., Friday, January 26, 1962.)

TRAINING OF PHYSICIANS, DENTISTS, AND PROFESSIONAL PUBLIC HEALTH PERSONNEL

FRIDAY, JANUARY 26, 1962

House of Representatives,
Committee on Interstate and Foreign Commerce,
Washington, D.C.

The committee met at 10:10 a.m., pursuant to recess, in room 1334, New House Office Building, Hon. Oren Harris (chairman of the committee) presiding.

The Chairman. The committee will come to order.

This morning, as we constinue hearings on H.R. 4999 and related bills, we are glad to welcome to the committee Dr. Gerald D. Dorman, representing the American Medical Association.

Dr. Dorman, we are glad to have you and your associates. I believe you have with you Dr. Leland S. McKittrick and perhaps some other whom you may identify if you will.

Dr. Dorman. I also have Dr. Wiggins here, who is secretary of the Council on Medical Education and Hospitals.

The Chairman. You may have a seat and, if you wish, Dr. McKittrick and Dr. Wiggins may join you.

Dr. Dorman. They will not make a statement, Mr. Harris, but they will be here for the purpose of answering questions.

The Chairman. Very well. You may proceed.

STATEMENT OF DR. GERALD D. DORMAN, ACCOMPANIED BY DR. WALTER S. WIGGINS AND DR. LELAND S. McKITTRICK, ON BEHALF OF THE AMERICAN MEDICAL ASSOCIATION

Dr. Dorman. Mr. Chairman and members of the committee, I am Dr. Gerald D. Dorman of New York City. I am appearing here today as a member of the board of trustees of the American Medical Association. I am also second vice president of, and medical consultant to, the New York Life Insurance Co.

With me are Dr. Leland S. McKittrick of Brookline, Mass., and Dr. Walter S. Wiggins of Riverside, Ill., chairman and secretary, respectively, of the Council on Medical Education and Hospitals of the American Medical Association.

The American Medical Association is a national association of approximately 180,000 physicians. The association, since its inception, has continuously worked toward increasing the number of qualified physicians. In the past 10 years, the association, in collaboration with the Association of American Medical Colleges, has aided interested organizations in the establishment of six new medical schools. Currently, commitments have been obtained for another 5 schools

and we are in consultation with 16 institutions or organizations presently contemplating the establishment of new medical schools.

The American Medical Association has a serious and long standing interest in maintaining the high quality of medical education in the United States without which there cannot be high quality medical care. For over a century, the American Medical Association has been actively and effectively engaged in the improvement of medical education in the United States. It can now be said, with assurance, that medical education in this country is superior to that found anywhere else in the world. It is not a coincidence that the improved standards of medical care in the last half century saw the elimination of substandard medical schools and diploma mills which had been turning our graduates in large numbers. This improvement in medical education is the result of the vigorous efforts of this association and other interested organizations.

Recognizing the problems in the field of medical education, the American Medical Association for the past several years has endorsed a limited program of Federal aid to medical schools.

In June of 1955, the American Medical Association supported the medical school construction provisions contained in H.R. 4743, 84th Congress, introduced by the late chairman of this committee, Mr. Priest, of Tennessee.

In April of 1958, the association favored the construction provisions of H.R. 6874, 85th Congress, introduced by the chairman, Mr. Harris.

Again in June 1960, the associatiton supported the construction provisions of H.R. 6906, 86th Congress, introduced by Mr. Fogarty, of Rhode Island.

I should like to take this opportunity on behalf of the American Medical Association to respectfully submit for your consideration our views on H.R. 4999, 87th Congress, which is now pending before your committee.

It is our understanding that this bill would amend the Public Health Service Act to provide:

(1) Matching grants for the construction, replacement, or rehabilitation of medical schools;

(2) Grants for scholarships and related grants to partially meet the cost of instruction at medical schools;

(3) For an extension and expansion of the research facilities construction program.

I shall discuss in particular those provisions of the bill providing for matching grants for the construction, replacement, or rehabilitation of medical schools.

If the high standards of medical education are to be maintained, increased attention must be given to the adequacy of physical facilities, the availability of qualified instructors and the availability of teaching material and patients for the clinical phases of medical education. Any attempt to increase the number of medical students without regard to these conditions will result in a lowering of the standard of medical education. At this time, priority should be given to an increase in the physical facilities available for medical education.

We believe that there is need for assistance in the expansion, construction, and remodeling of the physical facilities of medical schools and, therefore, a one-time expenditure of Federal funds on a match-

ing basis is justified, where maximum freedom of the school from Federal control is assured.

The support of these provisions in H.R. 4999, 87th Congress, is based on the action of the house of delegates of the American Medical Association taken initially on June 13, 1951, and reaffirmed on occasions since that time.

We would also urge that the National Advisory Council on Education for Health Professions, suggested in the bill, be composed of persons skilled in the broad aspects of engineering, education, finance, architecture, as well as those concerned with training in medicine, dentistry, or public health professions.

At this time, I cannot supply you with a recommendation on the other sections of H.R. 4999. I would like to acquaint the committee, however, with certain related programs which the American Medical Association has initiated in these areas.

For some time, the American Medical Association has been aware of the decline in the number of eligible college students seeking admission to medical schools. This apparent shift away from medicine is due, in part, we believe, to the high cost in time and money of securing a medical education. This trend has been accentuated by a dramatic emphasis on careers in science and engineering.

A study of this problem reveals that the cost to the student of a postbaccalaureate education in other sciences is usually considerably lower than the cost of a medical education We have also found that there are many more scholarships, fellowships, and other financial aids available for graduate students in fields other than medicine.

On the basis of these findings, the house of delegates of the American Medical Association in November 1960 established two programs, the objectives of which are complementary and interrelated.

First, the house authorized a student honors and scholarship program designed to focus attention on careers in medicine, to attract a substantial group of able students to prepare for admission to medical schools and to assist financially a limited number of outstanding students who, for financial reasons, are unable to pursue a career in medicine.

Second, the AMA house of delegates has adopted a student loan program designed to alleviate the financial difficulties of medical students and to encourage career decisions in favor of medicine. This program will utilize the principle of a security fund, functioning as a surety agency, to make available unsecured personal loans at a low rate of interest to medical students.

Administrative costs will be paid by the American Medical Association-Education and Research Foundation. These loans will be available by midspring to medical students, interns, and residents and will provide each borrower as much as $10,000 over a 7-year borrowing period.

These programs have been adopted with the firm conviction that if they are implemented with wisdom and vigor the quantity and quality of the medical schools' applicants will be increased. The performances of many medical students will be improved by the alleviation of their financial problems and the profession will thereby demonstrate a significant acknowledgment of medicine's obligation in this area. It

is logical to assume that further improvement in medical care will ultimately result from immediate positive action.

In summary, the American Medical Association by its own action has given clear recognition to the financial problems of medical students. However, we would like to emphasize our conviction that the medical school construction provisions should be given first legislative priority.

The American Medical Association appreciates this opportunity to make our position known to your committee with respect to certain provisions of H.R. 4999, 87th Congress, and requests that this statement be made part of the record of your hearings.

Dr. McKittrick, Dr. Wiggins, and I will be happy to answer any questions that the committee may have.

The CHAIRMAN. Thank you very much, Doctor, for your splendid statement. It was brief and to the point. I am personally—and I am sure I can speak for the members of the committee—very glad to have the position of the American Medical Association on the provisions of this bill.

I am also glad to have an explanation of the long continuing interest of the American Medical Association in maintaining the high quality of applicants to medical schools. It is certainly commendable of the association that you have been as active as you have stated in improving medical education in the United States.

I think it was said by the Secretary of Health, Education, and Welfare that we did have superior medical care available for the people of this country. Your statement substantiates that this country has the finest there is in the world.

A statement was made before this committee by two witnesses here which also tends in my judgment to confirm this fact. But we cannot rest on status quo, we cannot rest on the fact that we have done a good job in this country in the past.

Certainly you recognize this since you are advising the committee what actions looking to the future have been taken by your own association. There would be little need of my asking any questions about the position which your association takes in reference to construction funds for medical schools. That position seems to be firm and precise and I have no questions about it.

I think it would be helpful to recall the fact that this has been the position of the association since 1951.

I would like to ask you two or three questions though, about your program of assisting students seeking admission to medical school. First, I think it is a laudable and commendable thing for the doctors of the country to recognize this need and to do something about it. I think perhaps the only criticism would be due to the fact that you have not let it be known to the Nation what you are doing.

Apparently not enough people know what has been done in this field. Therefore, I would like to ask a little more information. How long has this program of supplying assistance to college students seeking admission been in effect?

Dr. DORMAN. Could I have Dr. Wiggins give you the details because he is closely associated with it.

The CHAIRMAN. Yes, we will be glad to have Dr. Wiggins reply.

Dr. WIGGINS. Mr. Harris, the loan provisions of the association program will become effective in the spring of this year. The announcement of the program is to be made in the middle of February. It is expected that applications from students, interns or residents will be received and processed by the first of March. It was only a year ago that the house of delegates of the American Medical Association approved the general principle of the loan program and honor and scholarship program. The details of it have been worked out since that time.

The honors program has not been settled in all of its details as yet and we cannot at this moment say when it will go into effect.

The CHAIRMAN. Now you have covered three things here that I want to break down a little bit. Let us take No. 1, loans. This is your first year that you will have an actual program of loans to eligible college students?

Dr. DORMAN. Yes, sir, that is correct. We have been in the process of making the arrangements for over a year.

The CHAIRMAN. Yes, I appreciate that. But the program is just now being initiated.

Dr. DORMAN. Yes, sir. We are speaking now of the American Medical Association because on the State level our State organizations have had programs in effect prior to this.

The CHAIRMAN. Yes. Well, I want to talk about the American Medical Association now.

Dr. DORMAN. Yes, sir.

The CHAIRMAN. Now, if it is appropriate, and there is no reason why you should not answer it, how much money will the American Medical Association have the first year for the purpose of making loans to college students?

Dr. WIGGINS. Because of the design of the loan programs, Mr. Harris, I could not say the funds available will be limitless, but they will be very substantial, in the millions of dollars. The American Medical Association will serve as the surety agency for the loans which will be made by a bank to the student, intern or resident. This will allow the loan to be made at, I believe, one-half of 1 percent more than the prime bank interest rate.

The American Medical Association will stand behind every loan so that the student need sign no notes, he will need no cosigners, no collateral of any kind. The American Medical Association, by standing behind each loan, simply guarantees to the bank that if the student does not repay his loan, the American Medical Association will.

The CHAIRMAN. Who is going to sign the papers on it?

Dr. WIGGINS. The American Medical Association.

The CHAIRMAN. In other words, this is a contract between the American Medical Association and the bank and not the student?

Dr. WIGGINS. Yes, sir.

The CHAIRMAN. But the student's obligation is worked out and made a record of in connection with his application?

Dr. WIGGINS. I should add, Mr. Harris, the student will sign his own note but he will not need a cosigner. The guarantor of the note will be the American Medical Association.

The CHAIRMAN. Yes. I am glad to get that clarified. I thought you said the student would not sign any note or would not do any-

thing at all. If you can estimate for the committee, how many students do you expect to assist under this loan program, entering medical schools this fall of 1962?

Dr. WIGGINS. We honestly don't know, Mr. Harris, and won't know until the program goes into effect.

The CHAIRMAN. Now, application for admissions are being accepted now for next year, are they not?

Dr. WIGGINS. That is right.

The CHAIRMAN. By early summer I suppose the decisions on admission will have been made. You would not know until that time?

Dr. WIGGINS. Yes, sir; that is right.

The CHAIRMAN. Who in your own organization takes care of this problem, does the detailed administrative work for it?

Dr. WIGGINS. The Business Division of the American Medical Association will handle the business work of it, the keeping of accounts and records.

The CHAIRMAN. In your Chicago office?

Dr. WIGGINS. Yes, sir.

The CHAIRMAN. Do you have any indication whether there will be a few students that will be assisted in this manner this year or a number, or can you give any indication at all how it might work?

Dr. DORMAN. It is very difficult, Mr. Harris, to say exactly. In the last years there has been close to $1½ million on loans through the medical schools to their needy students. Those scholarships have helped about 2,000 and loans have helped about 3,000. These are very rough figures.

The CHAIRMAN. Who has done that?

Dr. DORMAN. The medical schools. It is expected that this may be doubled with this loan program.

The CHAIRMAN. Now, that gives us some idea.

Dr. DORMAN. I am sorry to be so indefinite, but this should give you some idea of it.

The CHAIRMAN. In other words, the medical schools admit approximately 2,000 students who receive scholarships?

Dr. DORMAN. Between 2,000 and 3,000.

The CHAIRMAN. And under the loan programs of the medical school about 3,000?

Dr. DORMAN. That is right. Sometimes the same person may get a scholarship and a loan, so there are not necessarily a total of 5,000.

The CHAIRMAN. Well, that does give us some idea.

You say that it is entirely possible that this may be doubled under the AMA program?

Dr. DORMAN. I say it might be, sir. I cannot say it will be. We have to wait until we have our first year's experience in.

The CHAIRMAN. Out of your experience and the information that you have, what percentage of medical students require financial help.

Dr. WIGGINS. If my memory serves me right, Mr. Harris, something in the range of 30 percent of medical students have indicated a need for further financial assistance beyond all the resources currently available to them. These current resources include some commercial-type loans. This program would be far more favorable to the student than a commercial-type loan. We believe and hope it will replace commercial-type loans so that it will be less of a drain on the student.

Further, the program will provide loans to interns and residents. No one has any experience in this area, so we cannot anticipate how many dollars or how many interns or residents will be involved.

The CHAIRMAN. You have facilities to accept some 7,000 to 7,500 students in the medical schools of the country each year. Is that about right?

Dr. WIGGINS. A little more than 8,000.

The CHAIRMAN. Under the proposal in this bill we hope to accomplish an increase to around 11,000 or 12,000. So it is going to take some program over and above what you are doing which would encourage and assist students seeking admission to medical school, and the bill here proposes a program toward that objective.

Dr. DORMAN. Yes, sir.

The CHAIRMAN. It is going to be absolutely necessary for facilities to be made available even if your loan program would become effective, would it not?

Dr. DORMAN. Yes, sir.

The CHAIRMAN. Mr. Springer.

Mr. SPRINGER. May I say first, Doctor, I want to congratulate you on the objectives in the statement—may I say the brevity, too. This committee is many times bored by 45-page statements. This one was to the point and I think you said all you could possibly say.

I want to pursue before I forget it what the chairman has mentioned here. How much money do you anticipate, when your program gets underway, will be available for scholarship loans each year?

Dr. DORMAN. There will be the primary money which we guarantee, which will be in the area of anywhere from $3 million up.

Mr. SPRINGER. Up to what?

Dr. DORMAN. That depends on the amount of support we get through our education and research foundation. We have been receiving promises of very large contributions, some from foundations in other areas that are interested in education.

Aside from that there is always a drive for the education among the doctors of this country. Some States require that every doctor who is a member of the State society pay $10 or $20 into this fund as part of his membership obligation.

Those funds we know. Beyond that—when we get into the foundations' contributions—I cannot give you a specific figure but there has been talk of $10 to $20 million.

Mr. SPRINGER. In addition to the $3 million that you have mentioned?

Dr. DORMAN. That is right. That is why I cannot give you the upper limit.

Mr. SPRINGER. You are thinking in terms today of around $15 million hard cash?

Dr. DORMAN. Possibly, yes.

Mr. SPRINGER. This bill, if I figure it right and you mentioned 8,000—I think the figure of 7,200 was mentioned by the Secretary the other day, as the graduating figure—in my estimate here will generate 30,000 students in the medical colleges each year.

Now multiplying that by $1,500, that would be $25 million, and a fourth of that would be roughly six and a quarter million dollars is

all that would be needed if one-fourth of the entire enrollment is ultimately under this bill to be financed by them.

Now, do my figures correspond roughly with your estimates of what this bill has?

Dr. DORMAN. We estimate that it may be up to 30 percent that will need some help.

Mr. SPRINGER. Up to 30 percent instead of 25 percent?

Dr. DORMAN. Yes, sir; but your estimates are correct in the long run.

Mr. SPRINGER. How long do you think before this will be in operation?

Dr. DORMAN. It will be in operation in the summer on a starting basis, but I would guess it will not reach its full extent for about 5 years.

Mr. SPRINGER. How much do you think you are going to have available for this incoming class in September 1962? Available for loans?

Dr. WIGGINS. We would anticipate, Mr. Springer, that we would be able to provide loans for all students who wish to use this source. Beyond that I could not say.

Past experience with medical student loans has been very good. Their rate of default is very, very low.

Mr. SPRINGER. The effect of this is for you to guarantee a loan?

Dr. DORMAN. Yes.

Mr. SPRINGER. Now, do you believe that in September of this year you will be able to take care of those who want to get a loan from a private bank or any lending institutions?

Do you feel you are going to be able to back all of those loans in 1962?

Dr. WIGGINS. Yes, sir.

Mr. SPRINGER. For everybody who applies for them?

Dr. WIGGINS. Yes, sir.

Mr. SPRINGER. This 30 percent. I want to get this in the record.

Dr. WIGGINS. I understand the question, but the 30 percent that I used perhaps cannot be transferred totally to our program. There are 30 percent of the students who have need for further financial assistance.

Their need may or may not be of the character that would cause them to want to participate in this particular loan program.

Mr. SPRINGER. That is what I am trying to find out so that the record is made on which there can be no doubt when we discuss this bill, as to what extent this program is going to be positive assistance to the September 1962 entering class.

If you cannot supply that today, can you supply that for this record so that this record will be complete as to what your program will do for this 30 percent who need financial aid in one form or another.

If one-third is approximately 10,000 students that need it in one form or another, $100, $500, $1,000, or $1,500, how many of those is your program going to be able to help, of these 10,000 applicants which you have stated possibly will be needing help?

Dr. WIGGINS. As far as I know, Mr. Springer, for those who wish to participate in this loan program there will be a mechanism available for the entering class of 1962.

Mr. SPRINGER. Do you mean by "mechanism" a practical loan program under which they can apply and get cash? Do you mean that by the word "mechanism"?

Dr. WIGGINS. Yes, sir.

The CHAIRMAN. Will the gentleman yield?

Mr. SPRINGER. Yes.

The CHAIRMAN. I got the impression, Doctor, that an applicant had to meet certain standards in order to be eligible for your program, had to be an honor student or had to have made a certain record.

Am I mistaken in that?

Dr. DORMAN. He has to be acceptable for the medical school. He has to be accepted on his record but he does not necessarily have to be the top of his class. It is not a scholarship.

The CHAIRMAN. Then, do I understand that any student that would be accepted on application to a medical school would be eligible for this program?

Dr. DORMAN. Yes, sir.

Mr. SPRINGER. In short, Doctor, 100 percent of those who apply and are accepted, everybody who applies and is accepted is eligible for a loan under your program?

Dr. DORMAN. Yes, sir.

Mr. SPRINGER. Now, if you will turn to page 1 of your statement, down at the bottom you make this statement:

> In the past 10 years, the association, in collaboration with the Association of American Medical Colleges, has aided interested organizations in the establishment of six new medical schools. Currently commitments have been obtained for another five schools.

Can you name those schools?

Dr. DORMAN. Dr. Wiggins has the names of the schools.

Mr. SPRINGER. Will you put those in the record at this point, Doctor?

Dr. WIGGINS. Yes, sir.

In Texas, the University of Texas has embarked on the creation of a new medical school in San Antonio as part of the University of Texas system.

Mr. SPRINGER. That will be a new medical school?

Dr. WIGGINS. Yes, sir.

The University of New Mexico has embarked on the establishment of a new medical school in Albuquerque as part of the University of New Mexico.

The University of Connecticut has made a commitment for the establishment of a new medical school.

Brown University in Rhode Island has made a similar commitment.

Rutgers University in the State of New Jersey has made a similar commitment.

Mr. SPRINGER. Now can you give us an estimate of what the enrollments will be of these schools when they get underway? A fair estimate?

Dr. DORMAN. Dr. Wiggins can give that as soon as he has jotted down his figures. He has the estimates in mind.

Dr. WIGGINS. The total first-year enrollment of the 5 schools is likely to be in the neighborhood of 300 students.

Mr. SPRINGER. Now, what will they be when they are underway 5 years later? Do you have that?

Dr. WIGGINS. No, sir; except that I think it will be influenced a great deal by what happens to this legislation.

Mr. SPRINGER. In other words, if this legislation goes through a great deal will be done in building the schools. Is that the situation now?

Dr. WIGGINS. Yes.

Mr. SPRINGER. And you say:

We are in consultation with 16 institutions or organizations presently contemplating the establishment of new medical schools.

Will you supply the record with the names of those 16 schools or organizations?

Dr. DORMAN. We have those here available.

Mr. SPRINGER. Will you read into the record the names of those 16 schools?

Dr. WIGGINS. In the State of Arizona, one of the two major State universities. The decision has not finally been made by the State legislature as to which of the two.

The University of California is currently undertaking a study as to the development of a new medical school as part of its statewide university system. The location of this has not as yet been decided.

The University of Delaware and other groups in the State of Delaware have been considering the establishment of a new medical school. They are not nearly as far advanced in their thinking and studies as the first two.

The State Medical Society in Idaho—and now with the support of other groups—is very much interested in the development of a medical school somewhere in Idaho. There are problems related to this—in terms of population concentration, character of higher institutions and so forth.

Mr. SPRINGER. Doctor, that is four. Will you rapidly read the 16 so that we will have them in the record?

Dr. WIGGINS. All right, sir.

A large hospital in the State of Illinois; the University of Maine; in Massachusetts, there is legislative interest at the State University and also a private university in Massachusetts; in Minnesota, a group of physicians. Michigan State University. In New York there is interest, both at the State level and at the city level in the city of New York.

There is also interest in the city of New York in a large private hospital.

In the State of Ohio there are three cities where educational institutions, physician groups, and other interested groups are concerned and studying the possibilities.

In Norfolk, Va., largely through the activities of the local medical society, there has been created interest in this area.

Mr. SPRINGER. Is that the 16?

Dr. WIGGINS. I believe it is. I will check them.

Mr. SPRINGER. Doctor, can you give us any estimate provided these were established as to what the increase would be if these went through, the increase in enrollment, in the hundreds or thousands?

Dr. WIGGINS. If they all developed into what is now the average size medical school, it would be something less than 1,600 new enrollments per year.

Mr. SPRINGER. I want to be sure that your association is on record here. You are on record here for bricks and mortar. Is that correct?

Dr. DORMAN. That is right.

Mr. SPRINGER. You are on record "not for scholarships."

Dr. DORMAN. We have taken no position on the scholarships. Dr. McKittrick's council is making a study on scholarships. The question becomes more intricate when Federal funds are involved. Recommendations will be made to our board of trustees.

Mr. SPRINGER. Then you are for bricks and mortar; you have taken no position on scholarships?

Dr. DORMAN. That is correct.

Mr. SPRINGER. Do you have any position on loans?

Dr. DORMAN. The position on loans is the same as on scholarships. In other words, no present position. It is under study.

Dr. DORMAN. Yes, sir.

Mr. SPRINGER. Thank you.

The CHAIRMAN. Mr. Younger.

Mr. YOUNGER. Doctor, I do appreciate very much this help that you have given the committee.

On page 4 you apparently accept the establishment of a separate advisory council as advocated in the bill. Many of the witnesses have asked that the present council be given this additional authority and not to establish a new council.

Have you any thought on that?

Dr. DORMAN. We have a feeling that if you have the same council, you should have it expanded as indicated with further specialists in some of these other fields of architecture, engineering, finance. We have no objection as it is set up in the bill.

Mr. YOUNGER. In regard to whether you advocate loans or scholarships, which phase of that do you advocate?

Dr. DORMAN. We have, as I have said, taken no position on it. Perhaps Dr. McKittrick could give us a little background from the study that his group is making on these to show some of the problems that we are facing in not as yet having made our position clear in this matter.

Could I have Dr. McKittrick speak to that?

Mr. YOUNGER. Yes.

Dr. MCKITTRICK. Mr. Chairman and Mr. Younger and members of the committee, I don't know how much you want to go into it, so I will make it brief. If I seem a little muddled in what I have to say, it is probably because I am muddled.

A year ago I thought that I knew the answer to the scholarship question, which is essentially what you have in this bill. On more mature thinking—and when our Council took it up more thoroughly, it seemed to us that it was not a simple matter of talking in terms of paying the student through his educational program. You had to start when he became a freshman in the medical school.

As a matter of fact, he should have assurance before he is a freshman in medical school—while he is in college. Then the student has 2 to 5 years of graduate training after he receives his M.D. degree.

The entire period of 4 years in medical school and 2 to 5 years after medical school is deficit financing. He has to have help financially.

It seemed to us that before going out on a limb on scholarships, thought should be given to the entire cost to the prospective doctor. Something has to be done about the other end of the line.

If you could create a mechanism which made him self-supporting when he got his M.D. degree, you then could look at the whole situation in relation to scholarships and see where you come out. That is where we are at the present time.

This brings up this question that you have all heard so many times, Federal aid. That brings up the problems of the support of the medical school and of the financing of medical education at the medical school level.

We recognize the schools and students need help. Government is in this very deeply. Nobody is sure that the present mechanism is going to end up in the best interest of medical education because of the way the moneys are given. And, therefore, an integral part of this whole problem is to review all of the funds that go into medical education, from sources other than the medical school itself.

The more that we got going, the more complicated it became. We are at the present time in the midst of an effort to try to untangle this whole situation, to clarify our own thinking, and to make specific recommendations to the house of delegates of the American Medical Association.

Mr. YOUNGER. In your thinking about providing a means by which the doctor could become self-supporting after he got his M.D. degree, do you contemplate a method by which his internship might be more lucrative than at the present time?

Dr. MCKITTRICK. Well, we hope very much—certainly within a year, and possibly within 6 months—to have some specific recommendations relative to that.

The house of delegates of the American Medical Association has approved in principle the concept that the intern and resident should be more adequately paid. The problem is, and this becomes complicated, too, to develop a mechanism which is fair, is proper, and is in keeping with the best interest of the people who are being served.

We are hopeful that there may be some specific recommendations relative to those details, possibly by June. I would hope certainly by next December.

Mr. YOUNGER. Has your group given any thought to the question of forgiving a part of the loan if the funds are advanced in the form of a loan rather than an out and out grant of scholarship, because of certain work or assignments that the doctor might take after he has his medical degree and his after-degree training?

Dr. MCKITTRICK. I cannot answer that in detail. All I can say is that our committee, in developing and recommending the development of a loan program, thought that the loans should be made with no string attached. Therefore, we have not made this as a part of the recommendation.

Mr. YOUNGER. In other words, it would be just a clear loan that would be paid back on a reasonable basis after he has started practice?

Dr. McKittrick. That is right. I think the important thing about the loan is that at the present time one of the problems with loans is that they are relatively short term, at least in most instances, and must be paid back at a time when the young physician is least able to pay them back.

Our loan program will give him adequate time, and also makes it possible for him to secure loans after he has left the medical school.

Mr. Younger. Thank you very much.

The Chairman. Mr. Collier.

Mr. Collier. Yes, Mr. Chairman.

Before I ask any questions here, I think sometimes it is well to get this whole complex situation back in perspective. First of all, as a matter of statement, I would like to say that there are but two purposes for this legislation, that is predicated on two things:

No. 1, the need to provide an adequate number of physicians to take care of the medical problems of the American public in the future as well as the present, of course.

No. 2, to create an improved medical care or attention to our people.

Now, speaking to No. 1, we have been told in testimony given to this committee during the past 4 days by the Secretary of the Department of Health, Education, and Welfare and, of course, by various medical school deans that have been here that, at present there is no means of accommodating an additional number of medical students because of the inadequacy of facilities.

No. 2, we were told that it would take a minimum of 2 years to provide new facilities for those existing facilities before any additional enrollment could be accomplished.

Now, No. 3, we were told it would take 3 to 5 years, where an entirely new facility was to be established.

Therefore, any scholarship aid or loans that were given in the next 2 years admittedly would not increase the accommodations for enrollment anywhere. This has been established.

Now, the question is this. If this is true and if we embark upon a scholarship program at this time, realizing, of course, that there are loans and scholarships available to present medical education, what effect would this have on the enrollments for the next 2 years?

Dr. Dorman. It probably would not increase the enrollments until the facilities are enlarged. That is why we have been a little bit insistent on bricks and mortar facilities.

It would, however, help those young men who are in college, in either their first or second years of the 4-year academic course, having to plan for their future, to know that funds will be available to him in 2 years when he graduates. Many of the ones who decide now that they will have to go into engineering or other sciences may then say, "I guess I can take my first love, which was medicine."

Mr. Collier. Let us take a hypothetical case of John Doe who is a straight "A" student, who financially is unable to attend medical school because of the cost. And we have the case of Smith who is a "B" student. All other factors would be equal except that financially he would be able to go to school.

Now, if the colleges, medical colleges, presently could not accommodate for 2 years any additional student, this would only result in more selectivity so to speak. This program for 2 years, until you

could accommodate more students, would conceivably foreclose Smith, who is a "B" student but who, in fact, could afford to pay his way through medical school, in order to provide a place for John Doe who is an "A" student but could not afford to go to medical school. Is that correct?

Dr. DORMAN. At the present time, the deans that I have talked to tell me that if they have a top man, they have sufficient funds to see to it that he gets in and goes through.

Mr. COLLIER. They do?

Dr. DORMAN. That is what they tell me. I believe Dr. McKittrick can give you a little more information on that.

Dr. MCKITTRICK. May I just say a word, Mr. Collier?

Our council, in considering this whole question, because a purpose of our scholarship program is really a stimulus to recruitment, after we got into this quite deeply, suddenly realized if the recruitment aspect of this was pushed too hard an we recruited a lot of topflight people with no place to put them, we would be in a jam. That is why we believe so strongly that what we need now are facilities. Then the mechanism of financing students, which is not doing too badly now, can be picked up and can be added.

But we cannot get these facilities overnight, as you point out, and that is why we felt so very, very urgent about the need for brick and mortar.

Mr. COLLIER. Would you say then in your opinion, Dr. McKittrick, that the emphasis for assistance should be made upon those years of actual medical training rather than that period of premedical education that a person, a potential doctor must get?

Dr. MCKITTRICK. I am not sure that I totally understand your question. My answer may not be what you have in mind.

Mr. COLLIER. I have no answer in mind, sir.

Dr. MCKITTRICK. I think one of the urgent needs—I say I, I mean we—is to recognize the properly motivated and the talented young man at the college level. Even go back to the high school level, if you will.

Most scholarships now do not come until after the student has been admitted. It was our hope that we could designate the brighter young people—properly motivated at the college level—so that at least a few of them would know that they had a scholarship when they went in.

As Dr. Dorman has said, and I don't know whether this holds in every medical school or not, but I know that it holds in a great many medical schools, once a medical student has been admitted and if his academic work is good, he does not have to leave for economic reasons. Now, I cannot answer as to every medical school, but I know that that holds in a number of the medical schools whose deans I have talked to.

Mr. COLLIER. Going back to my original statement on the recognized purpose of the program. What I was attempting to point out was this. Would it not be possible under the broad program that we are considering here, as it might apply to a student entering college with all the good intentions of pursuing a medical profession, for a student to receive assistance and then at the end of 2 years, which frequently happens and it is highly probable, he might change his mind and decide to be an engineer at this point. That is why I say, should

there not be emphasis on those years where he is actually in medical work, bearing in mind of course that the National Defense Education Act permits many a loan in his first 2 years of college, which might be liberal arts or premed or preanything else, bearing in mind that there are many other scholarships in the field of liberal arts that are available to him for his premedical or pregraduate or postgraduate work. That is the point I was trying to make. That must be considered.

While I do not have the statistics I am aware of numerous cases where a young man entering college, pursuing in good faith study for a given profession, and at the end of his second year, for whatever reason, good, bad, or indifferent, he might have, he goes into another field.

I just thought it might be worth considering where the emphasis would be to achieve the admitted purpose of the legislation before us.

Dr. WIGGINS. We believe that part of our problem, Mr. Collier, is that during the college years those students who enter college with a commitment to the study of medicine, become aware of other careers that until that time he had not seriously considered. He also becomes aware of the costs involved in these other careers as opposed to the costs involved in a medical career. So that the other side of our concern, and the reason that we have no position in regard to the scholarship provision of this bill, is that we do know that we must do something to maintain the interest of the young man all the way through college and not let him drift into another career. Although we cannot document it, we believe that sometimes, at least, individuals truly interested in medicine, motivated highly to medicine, eminently well-qualified for it, drift from medicine into other sciences because of the financial implications. They are aware that there are stipends of one sort or another available that ease the burden of graduate study in the other sciences that are not available at least to the same degree in medicine.

Mr. COLLIER. Getting back to the loan program and to the concept of the loan feature that is to be in the legislation before us, do you see anything that could be construed as humiliating or embarrassing in asking a student in need of financial assistance to secure an education to fill out a detailed and comprehensive financial report or asking his parents to do that?

Dr. DORMAN. My own personal opinion on a thing of this sort is that we are asked for financial support every time April 15 comes around. There are financial reports that have to be filled out every time someone goes to a bank to secure a mortgage on a new home or a loan. It is one of the basic things in free enterprise I think that we have to estimate a person's responsibility, his financial ability, and I personally see nothing demeaning in fulfilling the obligation of putting on a private limited area your financial problems.

When we have a person admitted to a medical school we go pretty thoroughly into other phases of his life, his scholarships, his emotional stability, his ability, his fitness.

When you go on and extend that a little further into his ability to meet obligations, it is not for the purpose of prying that these questions are asked; it is to be helpful.

I think that that is sufficiently well indoctrinated in our way of life so that I see nothing demeaning in that particular phase of the problem.

Mr. COLLIER. In other words, you do not feel that there is anything wrong with asking for a financial statement, any time anyone desires Government assistance, to establish need regardless of what that need might be, be it medical care or be it assistance from the Federal Government to secure education or anything of that nature?

Dr. DORMAN. I think if that type of thing is requested, there should be safeguards so that this is not kicked around for publicity purposes.

Mr. COLLIER. Thank you, sir. That is all I have, Mr. Chairman.

The CHAIRMAN. Mr. McDonald.

Mr. MCDONALD. Mr. Chairman, I don't have any questions. I might indulge in a personal reference. I would like the committee to know that Dr. McKittrick is, in my opinion, the most outstanding surgeon in Massachusetts and some 20 years ago saved my mother's life and as recently as last year attended my father.

I feel I should be sitting down below him rather than up here.

Dr. MCKITTRICK. You are very generous. Thank you very much, Mr. McDonald.

The CHAIRMAN. Mr. Devine.

Mr. DEVINE. I noticed in the statement on page 4 in the middle it says for some time the AMA has been aware of the decline in the number of eligible college students seeking admission to medical school. You say this apparent shift away from medicine is due in part, you believe, to the high cost and time in securing medical education with which, I think, everyone would agree.

Of course, for quite some number of years the time period to get a medical education has been about the same but the costs have gone up like everything else. It used to be, however, that you had to turn applicants away. Is that not correct?

Dr. DORMAN. That is correct.

Mr. DEVINE. You say this is due in part. Now what other aspects do you contribute to the lack of applicants for medical school?

Dr. DORMAN. Part of it is the competition from other groups, engineering, science, and so on. There have been cases where some of the younger people that are going into college or medicine have asked me, "What are the chances of Government medicine coming in? We are not sure that we want to risk practicing under a system of Government medicine." There are many of that type of factors coming in.

If you are interested in the specific falling off of the applications, Dr. Wiggins has the figures for the last 4 years.

Mr. DEVINE. I have an interest because I felt that was one very basic reason, that the practice of medicine in the future is much less attractive in view of the type of legislation that is often being considered by the Congress.

Dr. DORMAN. I had one doctor who is a recruiter tell me that he hesitated to get out now and recruit among the high school and early college years as he had in the past.

Mr. DEVINE. Is Mr. Wiggins going to submit those figures for the record?

Dr. WIGGINS. Yes, sir. I have them here.

Mr. DEVINE. You do not have to read them at this time. You might furnish them for the record.

Dr. WIGGINS. Yes, sir.

(Following are the figures requested and furnished by Dr. Wiggins:)

TABLE 9.—*Applicants and their college record, and 1st-year enrollment, 1950–61*

Year	Number of applicants	Applications per individual	Number of 1st-year students	College record of 1st-year students (percent)			1st-year students bachelor degree (percent)
				A	B	C	
1950–51	22,279	3.7	7,177	40	43	17	75
1951–52	19,920	3.5	7,436	30	55	15	78
1952–53	16,763	3.4	7,425	18	68	14	86
1953–54	14,678	3.3	7,449	21	69	10	70
1954–55	14,538	3.3	7,576	17	69	14	71
1955–56	14,937	3.6	7,686	16	71	13	70
1956–57	15,917	3.8	8,014	16	70	14	73
1957–58	15,791	3.9	8,030	18	66	16	72
1958–59	15,170	3.9	8,128	16	70	14	74
1959–60	14,951	3.9	8,173	15	70	15	75
1960–61	14,397	3.8	8,298	13	71	16	74

Dr. DORMAN. There is one other point, Mr. Devine. Could I have Dr. Wiggins speak?

Mr. DEVINE. Yes.

Dr. WIGGINS. We are not certain of the impact of this but during recent years there has been developed, I believe to the advantage of everyone, a far closer relationship between the admission committees of our medical schools and the premedical advisers or their counterparts in colleges. The premedical adviser has a far better knowledge now of what characteristics and competencies the medical school will look for in the students who apply.

We have estimated that because of this far better understanding, premedical advisers advise better and, therefore, try as gently as they can, early in the college years when they can see these characteristics and intellectual competencies are not present, to deter the student early so that he makes specific plans for another field.

The degree to which this is a factor we certainly could not quantitate but we have measured, over the past 5 years, the number in over a hundred colleges and universities that normally provide a large segment of our medical students. We measured the numbers of students enrolled who can be identified by their own college faculty members as premedical students. The percentage of the total enrollment of the colleges that are identified as premedical students has remained remarkably constant. This, we think, perhaps supports the notion that some of the decline in the number of applicants may be due to something that is good for everyone concerned and, that is, that college students are now advised better. This is certainly not all of it by any manner of means.

Mr. DEVINE. Thank you very much.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Hemphill.

Mr. HEMPHILL. No questions.

The CHAIRMAN. Mr. Curtin.

Mr. CURTIN. Thank you, Mr. Chairman.

Dr. Dorman, you have spoken about the two programs being initiated by your association, one would be a loan program and the other would be a scholarship program.

You also said about $15 million would be available when the program got rolling. Would that all come under the loan program?

Dr. DORMAN. That would be primarily in the loan program; yes.

Mr. CURTIN. How much do you think will eventually be available in the scholarship or fellowship program?

Dr. DORMAN. The board of the American Medical Association has been talking in the neighborhood of $250,000 a year on the scholarship program. That would be American Medical Association money.

Mr. CURTIN. That would be over and above the $15 million that we discussed?

Dr. DORMAN. Yes, sir.

Mr. CURTIN. Where would that money come from?

Dr. DORMAN. That would come from American Medical Association funds.

Mr. CURTIN. Private contributions of doctors to the association?

Dr. DORMAN. Yes, sir; or appropriations from dues and other income.

Mr. CURTIN. Thank you.

The CHAIRMAN. Mr. Dominick.

Mr. DOMINICK. Thank you, Mr. Chairman.

Dr. Dorman, there are a couple of things on this loan program that I thought maybe we could clear up.

This $15 million will be available, as I understand it, each year?

Dr. DORMAN. Eventually, yes, sir.

Mr. DOMINICK. Secondly, at what point do the people who get the loans have to repay them? How long a time is the loan?

Dr. DORMAN. Could I have Dr. Wiggins answer that?

Dr. WIGGINS. It is set up so that he borrows the loan, which is at this low interest rate, for 7 years. At the end of the seventh year, then he renegotiates with the bank that made the loan or with another bank of his own choosing.

At this time it becomes more of a personal loan of the usual variety. But it would allow the student, the borrower, to initiate a loan. As a first-year medical student he would not be involved in repayment until he had finished all 4 years of medical school and had 3 years beyond medical school for further training.

Mr. DOMINICK. Thank you. You also said in the process of answering questions, I think by Mr. Springer, that you would have money available to take care of applicants in the entering class of 1962, in September. Would it not also be true that those people who need financial assistance who are already in medical school or internship would also be available this September for aid? Is that true?

Dr. WIGGINS. Yes, sir.

Mr. DOMINICK. Now, Dr. Dorman, do you know whether the five schools which are committed at this moment, as indicated on page 1 of your statement, will go ahead with the construction if this bill is not passed?

Dr. DORMAN. I believe that these five definitely will. As far as the 16 under consideration, those are not firm commitments. Those

may not all materialize. Some of those may depend on the building commitments of this bill.

Mr. DOMINICK. In connection with the number of applicants, referred to above, you still have more applicants than you have space available, do you not, in your medical schools?

Dr. DORMAN. We, at the present time—Dr. Wiggins has the exact figure—I am under the impression it is around 14,000 applicants for a little over 8,000 positions at this time. The exact figures will be in the record.

Mr. DOMINICK. I received a call yesterday from the president of the University of Colorado, which has an extremely fine medical school, indicating to me that the publicly supported schools such as the University of Colorado Medical School and others, are not in a position to receive a loan for construction purposes because they have no repayment method.

Do you happen to know whether this is equally true on other publicly supported colleges?

Dr. DORMAN. Could I have Dr. Wiggins speak on that?

Dr. WIGGINS. I can't. I don't know.

This is loan for construction?

Mr. DOMINICK. A loan for construction purposes.

Dr. WIGGINS. I don't know.

Dr. DORMAN. I'm sorry, but I do not have the answer to that.

Mr. DOMINICK. There was testimony from the Secretary and also from others that the per capita amount of doctors 20 years ago per 100,000 of population is about the same as it is now, there is not very much difference. However, they said that with the expanding population there was no assurance that there would still be that many doctors per 100,000 of population in 1970.

Obviously, since we have had an expanded population over the last 20 years, we must have had an expanded number of doctors in the United States. Is there any reason to feel that we won't have an increase in doctors anyhow, even if we should not pass this bill, in order to keep that ratio constant?

Dr. DORMAN. Many of the medical schools at the present time are hard pressed to take in their maximum. There are some of the medical schools, even in this city, whose facilities are getting so far behind, that unless they are able to rehabilitate them, bring them up to modern standards, there may be a danger of their dropping off the number they are now graduating.

It will take a continued effort to keep up the number of schools that are now available and to keep this increasing.

Mr. DOMINICK. Would you say then that not only the location of the graduate doctors but also the applications for medical schools is a matter of distribution in large part?

Dr. DORMAN. There is more than the problem of just distribution in this.

Mr. DOMINICK. That is what I wanted to find out. You think this is more than the problem of distribution?

Dr. DORMAN. Yes, Mr. Dominick; it is more than just that.

Mr. DOMINICK. Is my understanding correct that your student honor and scholarship program is designed to take care of students in college or is it designed to take care of students who are in medical school?

Dr. DORMAN. Students going into medical school.

Mr. DOMINICK. It does not apply then while they are in college?

Dr. MCKITTRICK. No, Mr. Dominick; it does not apply except that while they are in college they know that they are going to get it. By the time they are ready for medical school, once they have been admitted they will know, that the scholarship is theirs.

Mr. DOMINICK. In the history of medicine as far as you know it, over the past 30 years as an example, have there been periods of decline in applications and then a pickup again? Is it a cyclical thing at all?

Dr. DORMAN. Dr. Wiggins has that information.

Dr. WIGGINS. If I may take a moment I can show you a paragraph that indicates this. There have been in recent years, primarily since the last World War, two peaks of applicant activity. The first following the last World War when we got as high as 3.8 applicants per position in a medical school available. This was related largely to the accumulation of students whose education had been interrupted by service in the Armed Forces, plus the availability of GI bill funds to assist in their education.

The same phenomenon occurred but to a far lesser degree after the Korean war.

When looked at over a longer period of time there have been far smaller peaks and valleys but, as with any other activity of this kind, it is not constant each year.

Mr. DOMINICK. I have one more question, Doctor. There have been a number of people, including myself, who have been interested in whether or not optometrists should be included in a bill of this kind if it passes at all.

What is your opinion on that?

Dr. DORMAN. We have not taken any stand on the question of exclusion of optometrists from this bill. The whole matter of what we call the ancillary service—if you want to call them paramedical service—those people who support us in our care of the patient, is a field that we are doing a lot of research in. It is not just the question of the optometrists, although they are very important to the vision of this country. There are the podiatrists and the various people who work along in other fields that support the medical profession. We have not taken any position on enlarging this bill to where it would support all of the medical supports, shall I say, which we use in caring for our patients.

Mr. DOMINICK. Thank you. That is all, Mr. Chairman.

The CHAIRMAN. Doctor, I am not sure if I understood your reply to Mr. Dominick with reference to the repayment of the loan. I believe his question was at what time would the repayment begin?

Dr. DORMAN. He can start repaying it almost at will. It can run for 7 years at a level interest rate to him. At the end of 7 years he can renegotiate that loan either with the original bank or his own bank, at which time he would be doing it as a personal loan, not necessarily guaranteed by the association.

The CHAIRMAN. At that time, should he renegotiate and make acceptable arrangement, the association would be relieved of any further obligation?

Dr. DORMAN. That is correct.

The CHAIRMAN. But if he were not able to renegotiate the loan, then the association would continue as one of the sponsors and be obligated to make payment?

Dr. DORMAN. At this time we have not made any such commitments. But we would certainly take any case under consideration, individually.

The CHAIRMAN. Well, say the accumulated loan becomes due at the end of 7 years and the student was not able to pay it, and demand was made. Would the association then have to pay for it?

Dr. DORMAN. There is a provision that covers that. Could I have Dr. Wiggins answer that portion of it?

Dr. WIGGINS. Mr. Harris, the conditions of the loan are such that he could benefit by lesser interest as a result of the associations securing his loan only for 7 years.

The CHAIRMAN. What is that now?

Dr. WIGGINS. He would have the benefit of the associations securing his loan only for 7 years. Beyond that time the association will not secure his loan. If they did, pretty soon an unknown quantity of potential loans would be tied up in physicians who are in practice. That is not the intent of this program.

The CHAIRMAN. Yes, I appreciate that. But I am trying to figure out what is going to happen at the end of that 7 years.

Dr. WIGGINS. He must negotiate with the bank.

The CHAIRMAN. Suppose he does not?

Dr. WIGGINS. The bank would be first charged to attempt to recapture the loan. I would presume that if the association learned that he was in a position to repay his loan they would take whatever recourse was necessary to have the loan repaid.

The CHAIRMAN. But if he was unable to repay the loan, then the association is stuck with it?

Dr. DORMAN. Yes, sir.

The CHAIRMAN. That is what I was trying to get at.

Dr. WIGGINS. We hope there will not be many instances of that.

The CHAIRMAN. Well, I certainly hope so, too. But, in addition to the fact that you gentlemen are professional people and your association is a professional association in the medical field, there have to be observed some realistic business principles in your program that you are initiating here.

Dr. DORMAN. As underwriters we are responsible, yes, sir.

The CHAIRMAN. But could there be accumulated interest on the loan for a period of 7 years?

Dr. DORMAN. Yes, sir.

The CHAIRMAN. You mentioned a moment ago that the latest date when a scholarship commitment should be made was when the student had finished his sophomore year. Now if you want to accomplish that scholarships will be available at that time, would it not be necessary to have the scholarship program provided now for the students who would enter medical school in 1964? Unless you have a scholarship program now there is no way in which a commitment could be made to a student entering in 1964.

Dr. MCKITTRICK. I think that I must have made myself misunderstood, Mr. Chairman. The scholarships are not to be designated at the end of the sophomore year. This is called an honor and scholar-

ship program. The program was established with full realization that the American Medical Association could never give enough scholarships to really made a dent in the problem. The intent was to begin to select a group of students in the sophomore year that you might call honor students, who become eligible by virtue of their motivation and their scholastic standing to be designated for a scholarship. But the designee of the scholarship, if the intent of the committee is finally fulfilled, will not be named until toward the end of his college career.

In other words, toward the end, and I don't know whether it will be the third or the fourth year because the last I knew—and I am not too close to the details—these were not worked out. The student would definitely know that once he was accepted by a school, the scholarship was his.

But it is really trying to accomplish two things, recruitment of the higher quality of student and the designation of the group in the various colleges that make really potentially good medical students.

The CHAIRMAN. Dr. McKittrick, your scholarship program is going to be very limited, is it not?

Dr. MCKITTRICK. Yes, sir.

The CHAIRMAN. Now, under the proposed bill here, construction grants are to be made on a matching basis requiring 50 percent or 33⅓ percent of the funds to be furnished by the recipient.

Have you ever given any thought to applying the same principle to the loan funds which would be made available?

Dr. DORMAN. As far as I know, no.

Dr. WIGGINS. In terms of our own loan program, Mr. Harris?

The CHAIRMAN. I am talking about the bill, and I am talking about the Federal Government providing loan funds on condition that such funds are matched 50 percent or 33⅓ percent by industry and by the medical profession and by others who want to contribute to the funds.

Dr. DORMAN. Under our own program we have not gone into the matching funds problem because under our program the loan would be tailored to what the particular individual needed.

The CHAIRMAN. Dr. Dorman, thank you very much for your testimony here and you, Dr. McKittrick, and Dr. Wiggins. We appreciate the contribution you have made to this proposed legislation. We appreciate the benefit of your testimony.

Dr. DORMAN. Thank you, Mr. Chairman.

The CHAIRMAN. Dr. Wiggins, you may supply the information that Mr. Devine, I believe, asked.

Dr. Michael E. De Bakey.

Dr. De Bakey, I believe you have with you Dr. Sidney Farber.

Dr. DE BAKEY. Yes, sir.

The CHAIRMAN. You are professor of surgery at Houston, Tex., and Dr. Farber is scientific director of the Children's Cancer Research Foundation, Boston, Mass.

Dr. DE BAKEY. Yes, sir.

The CHAIRMAN. We will be glad to receive your presentation.

STATEMENT OF DR. MICHAEL E. DE BAKEY, PROFESSOR AND CHAIRMAN OF THE DEPARTMENT OF SURGERY OF BAYLOR UNIVERSITY COLLEGE OF MEDICINE, IN HOUSTON, TEX., ACCOMPANIED BY DR. SIDNEY FARBER, SCIENTIFIC DIRECTOR OF THE CHILDREN'S CANCER RESEARCH FOUNDATION, BOSTON, MASS.

Dr. DE BAKEY. I am Dr. Michael E. De Bakey, chairman of the Department of Surgery of Baylor University College of Medicine. I want to say first, Mr. Chairman, that I am very grateful for the opportunity to appear before this committee and to testify on behalf of the proposed legislation, H.R. 4999, which will, I believe, stimulate the establishment of some new schools of medicine and encourage the expenditure of enrollments of our existing medical schools and enable larger numbers of capable young men and women to study medicine irrespective of whether they come from homes of high or low income levels.

Mr. Chairman, I have prepared a statement which I should like to submit for the record, if I may.

The CHAIRMAN. Let it be included in the record.

(Prepared statement of Dr. Michael E. De Bakey follows:)

PREPARED STATEMENT OF DR. MICHAEL E. DE BAKEY

Mr. Chairman and members of the committee, I am Dr. Michael E. De Bakey, professor and chairman of the Department of Surgery of Baylor University College of Medicine in Houston, Tex. I am grateful for the opportunity to appear before this committee of the U.S. Congress to testify in behalf of the proposed legislation, H.R. 4999, which will stimulate the establishment of new schools of medicine, encourage the expansion of enrollments in our existing medical schools, and enable larger numbers of capable young men and women to study medicine irrespective of whether they come from homes of high or low income levels.

The evidence that our country needs to provide for the education of more physicians has been thoroughly documented and is now well established. Carefully prepared studies made by no fewer than five[1] groups of experts reporting to the President, the Congress, and the Surgeon General of the U.S. Public Health Service, show that by 1970 we shall have to graduate 3,500 more physicians than were graduated in 1960 in order just to maintain the same ratio of population to physicians (720 to 1) that we had in 1960. Anyone who has visited his physician recently and has had to wait with many other patients before he could obtain medical attention is aware of the shortage that exists now. And those who are associated intimately with physicians as I am every day know how long and how hard these physicians work in order to see all the patients who come for treatment.

The shortage of physicians is not a problem that any given State or community can solve by itself. Many State-supported schools of medicine have limited their enrollment to residents of their State, hoping that these students would be likely to establish a medical practice in their home State. Some States have even provided full cost scholarships to selected students in return for a guaranteed period of practice in a community in the State where a doctor is badly needed. The experience of many of these States and State-supported schools is that they cannot under these circumstances attract the best quality of students and that, in any

[1] See the following:
1952—Report of the President's Commission on the Health Needs of the Nation.
1958—Final Report of the Secretary's Consultants on Medical Research and Education.
1959—Report of the Surgeon General's Consultant Group on Medical Education.
1960—Report of the Committee of Consultants on Medical Research to the Subcommittee on Departments of Labor, Health, Education, and Welfare, of the Committee on Appropriations, U.S. Senate, 86th Cong., 2d sess.
1960—The Report of the President's Commission on National Goals.

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event, they cannot compel the physician graduate to practice there unless he wishes to do so voluntarily.

The physician shortage is and will continue to be a national problem. I, along with all those who have given thoughtful consideration to this problem, am convinced that it can best be solved by the judicious use of federally appropriated funds to assist local institutions in meeting the exceptionally heavy costs of medical education.

Studies on the cost to the student of a medical education, based upon the experience of the 1959 graduating classes, show that the average cost per student was $11,642, or $2,911 per year. It was found that 82 percent of the financial assistance the student received came from his own or his wife's immediate family. Only 18 percent of such assistance came in the form of loans or scholarships from banks, the medical school, or other agencies. It is not surprising to find, therefore, that 43 percent of all medical students came from families with incomes in excess of $10,000 per year, another 48 percent came from families with incomes ranging from $10,000 to $5,000, and only 14 percent from families whose incomes were less than $5,000 per year. Yet this latter category includes 41 percent of the white urban families in the United States.

Many medical students work during the school term and in the summer vacation period to help pay for the cost of their education. Only 25 percent were able to earn more than one-fourth but less than one-half of the total cost ($11,642). Sixty-seven percent earned up to one-fourth of this cost by their own efforts.

It is a common experience to encounter in colleges and universities well-qualified students who are overwhelmed by the prospect of paying for a medical education and are diverted to other fields where adequate support for graduate education is readily available.

We must all concern ourselves with the urgency of getting on with a comprehensive constructive approach to the physician shortage. The time required to plan and construct new schools of medicine is 4 to 6 years. Another 4 years is required before a student can complete his basic medical education. And 2 to 5 more years are required before he can assume the heavy responsibilities of caring for patients independently. There is no time to be lost if we are to remedy the shortage which now exists and if we are to prevent the even greater shortage which will surely develop unless proper steps are taken now.

It has been my privilege to work closely with advisory committees and councils of the U.S. Public Health Service and with members of the U.S. Congress in helping to improve the health of our people through medical research. A great deal of effort has been expended in seeking to select and define those research activities which could get the job done most effectively. We have been fortunate in securing the support of the Congress in developing a comprehensive program of support for research and research training. This latter category has been highly effective in making possible the training of research personnel and of teachers whose services are now so critically needed. We must expand these training programs rapidly or the shortage of qualified teachers will nullify our efforts to expand the education of physicians.

What is needed now, I believe, is the same kind of concerted effort to expand educational facilities that has brought us such fruitful results from the support of medical research.

The treatment of human illness is constantly being improved. What we must now do is to insure that such treatment is made readily available to our people by educating enough physicians to get the job done. We cannot expand medical knowledge continually and fail to make these benefits available.

Good health is one of the foundation stones on which the strength of our country rests. It is absolutely essential to the integrity and security of our Nation and the maintenance of its leadership in world affairs.

In light of these considerations, I should like to urge the passage of this legislation, H.R. 4999, which I strongly believe is urgently needed to maintain and promote our Nation's welfare, strength, and security. Thank you.

Dr. DE BAKEY. Then, if I may have the opportunity to do so, I should like to amplify this statement with some additional comments.

These are concerned primarily with the opportunity that this bill provides for not only increasing our total medical school enrollment

but for also improving the quality of the students who may be able to seek medical careers.

There has been adequate documentation of the need for this, so I shall not go into it, but there are some figures that I think will help to indicate why there is need for help in the scholarship area.

Now, the quality of medical care is dependent upon at least two factors, first, quality of the medical training provided the student and, secondly, upon the capacity and capabilities of the student.

The numbers of medical students, the number of college students applying for medicine, as you have already heard, has decreased substantially. Indeed, in about a decade there has been a decrease from about 6.6 percent, that is the percent of total college graduates applying for medicine to in the neighborhood of 3.9 percent. This is obviously a very significant decrease.

Secondly, and I think of equal, if not of greater importance, is the fact that the proportion of A students has also decreased significantly in about 10 years.

The percentage of A students in the first year of medical school approximately 10 years ago was 40 percent. But the percentage within the past year or so has decreased to 15 percent. So that we are not only losing in terms of the numbers of students that are applying for medicine but also losing in terms of the proportion of A students applying for medicine.

You have heard, I am sure, testimony about the many factors that are involved that have influenced this and the one which I would like to speak about most is the factor of the financial burden of the cost of medical education of the student.

The scholarships and the loans there are available today for medical students does help some but it does not help enough, as is evident from the figures I have just given you.

There is one other figure that I think may also reflect the importance of this financial factor and that is that there is also a significant difference in the ratio of the number of students from families of income in relation to the total population. Thus there are approximately 45 percent of the families of our population who have estimated income of $5,000 or less. But only 14 percent of the 1959 graduating class came from these families.

Now, the provision of loans for these students I do not believe will be adequate to meet these needs the reason being that the addition of a financial burden of a loan obligation is a deterring factor for many of these students who not only are concerned with the length of time necessary to obtain their medical education but with the fact that at the end of their educational period a loan burden will remain to be paid off, when they have the opportunity to obtain a career in other sciences which will result at the end of that period of education without such a financial burden upon them.

The availability of additional loan funds, however large, is not likely to provide adequate inducement for students to choose medicine in preference to a career in another life science. I think this factor will deter many students, particularly the students in the A group, from seeking a medical education.

The second factor that I would like to emphasize in support of this bill is the factor relating to the research and academic aspects of

medicine. Now, we have increased our research support in this country. Congress has been generous in providing adequate support for construction of research facilities construction and for medical research activities. Over the past decade I believe there is good evidence of the great value of this program which has provided great benefits in not only advancing our knowledge but in making available to the people of this country new knowledge that is helpful in the diagnosis and treatment of medical ills.

In the continued support of this program I think it is absolutely essential that we support our medical educational facilities and support the expansion of these institutions in providing increasing numbers of doctors who in turn will be able not only to continue in their academic and research careers but also in meeting the obligations of providing this new knowledge for our people.

In the light of these factors, Mr. Chairman, I would like to urge the passage of this entire bill because I believe that both provisions of this bill, construction as well as the scholarship provisions, are essential in meeting the total needs of our country for this purpose.

The CHAIRMAN. Doctor, thank you very much. That does complete your statement?

Dr. Farber, do you have any further statement?

Dr. FARBER. Yes, Mr. Chairman and gentlemen of the committee, I am grateful for this opportunity to join Dr. De Bakey in speaking in strong support of all of the provisions of this bill, H.R. 4999.

May I for the record submit my present affiliation?

I am professor of pathology, Harvard Medical School, at the Children's Hospital, scientific director, the Children's Cancer Research Foundation, Boston. Member of the National Advisory Health Council, National Institutes of Health, chairman of the Cancer Chemotherapy National Committee.

I speak today as a private citizen interested in medical education and in research but interested much more in the achievement of our national goals for the health of our people.

May I restate these very briefly?

These national goals are, first, to give to our people when sick the finest medical care in the light of our present knowledge.

Second, to prevent or eradicate the dread diseases by means of research and to add good years of happiness and productivity to the lives of our people. In short, to prolong the prime of live.

Finally, to bring to the patient, without loss of time, the results of research today, and as research progresses, through superbly trained doctors who take care of our people, and these doctors must be adequate in number as well as in training for this very important task. These are our goals and this bill adds one more extremely important method of achieving these goals as rapidly as possible.

I am in complete agreement with the various items which have been listed in this bill. May I select two for specific mention?

In addition to the obviously needed construction resources for medical schools existing today, and those medical schools which are to be built in the next few years, which are so badly needed, there has been specific mention of scholarships and specific mention also of research construction facilities. May I say a word about the research construction facilities. There is a mention of renewal of this support

for the construction of research facilities which has been going on for a number of years now to the great advantage of medicine in the sum of $50 million a year for each of 3 years.

I would like to urge that this sum be increased to $100 million a year for the next 3 years in order to help the country, medical schools, research institutions, and hospitals of the country, achieve as rapidly as possible the conditions which are badly needed for the conduct of research by people who are being trained in our research programs and who are able to carry out research through the appropriations made by the Congress of the United States with great wisdom and vision for the achievement of our national goals in health.

In addition, in this construction of research facilities there should be an item of great importance, the provision of $50 million for over a period of the next 5 years for the construction of badly needed library facilities in our medical schools.

The last item, Mr. Chairman and gentlemen, that I would like to mention concerns the necessity for scholarships which are provided in this bill. Scholarships I believe are badly needed. I would like to stress first that every private resource of the country in the medical schools and available to those who are interested in medical education should be used for the support of our boys and girls who want to become doctors, but I believe that these private resources will not be sufficient and have not been sufficient in the past and certainly are not adequate to meet our present needs.

The suggestion of loans instead of scholarships has been made repeatedly. I would hope that that would not be the solution because I think it is a very inadequate one.

Let me picture to you for a moment the young man or young woman at the end of medical school with 3 to 5 years of postgraduate training looming ahead, with the normal natural desires to build a family of their own, to begin practice with the great expense there, and then with the additional privilege, which is given young men and women, of helping to support their parents and perhaps their younger brothers and sisters who are also wanting an education; all of this tremendous financial load comes in the first 5 to 10 years after a man or woman has graduated from medical school.

From my own long experience of almost 35 years as a teacher in medical schools and in close contact with medical students from all over the country, I am convinced that a loan would be nothing but an added burden which would deter people from going into medicine or make those who do go into medicine because they are so dedicated go through a period of unnecessary hardship which can hold back the happiness of a whole new family of a young doctor. This I have seen repeatedly through the years and all of of us who are in medicine are quite familiar with this picture.

I do hope that the scholarship provisions of this bill will be maintained and that this bill will turn out to be the will of the Congress.

Thank you very much.

The CHAIRMAN. Thank you, Doctor.

Mr. Macdonald.

Mr. MACDONALD. I have no questions. I once again would like to point out that it makes me very proud to sit here from Massachusetts

and being an alumnus of the school at which you are a distinguished professor.

I was wondering at one point during this hearing, with administration appointments downtown and this hearing going on, who is keeping the store up there?

Dr. FARBER. Fortunately, there are airplanes, Mr. Macdonald.

Mr. MACDONALD. It is a great pleasure to see you and, although you are testifying as a private citizen, your reputation gives your words much weight.

The great work you have done in the field of cancer research for everyone in the country, but especially Massachusetts, is certainly noted by everybody here.

Dr. FARBER. Thank you very much.

The CHAIRMAN. Mr. Younger.

Mr. YOUNGER. No questions.

The CHAIRMAN. Mr. Collier.

Mr. COLLIER. I have one question.

You referred to a dropoff of "A" grade students admitted to medicall schools from 40 to 14 percent, it is a well-known fact in many high schools the better students of today in the past several years have been placed in accellerated courses where it is far more difficult today to give "A's" than it was a few years back.

Would you say that a doctor who eventually got out of medical school who was an "A" student would necessarily be any better doctor or physician than one who possibly was a "B" student?

Dr. DE BAKEY. Well, I think this is best answered by simply stating that if it were possible to do so every medical school would like to have every student be an "A" student.

Mr. COLLIER. Aren't you a little frightened at the trend in education today that might be foreclosing some good normal "B" or "C" students who might have something worthwhile to contribute to our society?

Dr. DE BAKEY. I don't think that this would prevent them from making whatever contribution their capacities will allow them to make.

Mr. COLLIER. But it would prevent them if there was priority given to the "A" student in every case and assuming that you had an enrollment of only "A" students, this would be the case, would it not?

Dr. DE BAKEY. It would prevent them from going into medicine if you took only "A" students, to be sure, but we are far away from that position.

Mr. COLLIER. Thank you, sir.

The CHAIRMAN. Doctor, I would not want the record to show that we are overlooking the "C" and "D" student, either.

Dr. DE BAKEY. That is right.

The CHAIRMAN. Mr. Devine?

Mr. DEVINE. Doctor, I have a letter here from the McGraw-Hill Publishing Co., dated January 24, the first paragraph of which I think is interesting.

It says:

President Kennedy in opening his press conference last week expressed concern over the diminishing interest of young students in those fields of engineering and science which are vital to the welfare of our country.

We know you, too, are concerned. We have heard testimony here for the last 3 days saying that it is necessary to attract people in the medical profession now because science and engineering is drawing them away, it is a more lucrative field and more desirable field. I bring this up for two reasons:

First, it does dispute some of the testimony given heretofore.

No. 2, if this bill is passed by the House and Senate and it becomes law we can expect that each school, whether it is animal husbandry, dairy technology, chemistry, etc., will come to the Congress saying if you build us more buildings, provide us scholarships, we will have better students.

Won't we set up a dangerous trend if we get into this field?

Dr. DE BAKEY. In the first place, Mr. Devine, adequate support for the education of other sciences than medicine exists now. Medicine is the only science that does not have adequate support for its students.

Mr. DEVINE. Medicine is the only one?

Dr. DE BAKEY. Yes, I am quite sure.

Mr. DEVINE. I was not aware of the President's remarks at his conference last week but that is what is contained in this letter. I thought it was very appropriate at this time.

Dr. DE BAKEY. I am sure all fields would like to have more people coming into them and applying for them and a better selection from them.

Mr. DEVINE. That is all, Mr. Chairman.

The CHAIRMAN. As I understand the program next week, we are going to take up a bill in the House of Representatives that will provide assistance to colleges and universities primarily in other fields.

On behalf of the committee we want to express our appreciation for the contribution you have made to this program.

Dr. DE BAKEY. Thank you, Mr. Harris.

The CHAIRMAN. The committee will adjourn until 2 o'clock this afternoon.

(Whereupon, the committee recessed at 12:07 p.m., to reconvene at 2 p.m. the same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

I think for the information of those who certainly are interested and will be affected, I might advise that we have a great many witnesses on the list this afternoon and it is going to be imperative that we try to cover every phase of the hearing and presentations and questions, but we are also going to have to do what we can to conserve time.

The first witness will be Dr. Stafford L. Warren, dean, School of Medicine, University of California Medical Center.

STATEMENT OF DR. STAFFORD L. WARREN, DEAN, SCHOOL OF MEDICINE, UNIVERSITY OF CALIFORNIA MEDICAL CENTER, LOS ANGELES, CALIF.

Dr. WARREN. Mr. Chairman and members of the committee, I am Dr. Stafford L. Warren, professor of biophysics and dean of the School of Medicine at the University of California at Los Angeles. I come

in a rather unusual capacity in that I am representing the deans of the five other medical schools in California, and I think perhaps Dr. Wolf is the only other one who has spoken for a group of schools, and it is interesting that we are on opposite sides of the continent.

I am very much impressed by the patience that your committee has and with the great insight that it has developed over the days of this hearing. I realize that some of you are veterans in having gone over these subjects several years in succession.

I would like to do two things. I have presented a statement for the record.

The CHAIRMAN. It may be included in the record, Doctor.

(The statement of Dr. Warren follows:)

STATEMENT OF DR. STAFFORD L. WARREN

My name is Stafford L. Warren, M.D. I am professor of biophysics and dean of the School of Medicine of the University of California, Los Angeles. It gives me great pleasure to have the opportunity and privilege to speak before your committee. I would like to present testimony on behalf of the deans of the existing private and public medical schools of the State of California, and to provide certain relevant information regarding our individual or collective experiences as our parent institutions have attempted to modernize, expand or build new medical, dental, and public health schools and their related facilities. The current and future demands upon the existing educational institutions are exceedingly burdensome financially in capital improvement plants, operating budget estimates, and even in the direct costs to the students themselves.

There will be others testifying here regarding these particular matters, for they pertain to all institutions in the United States. However, California in particular has been and is still witnessing an immigration which started at a high level at the end of World War II and has been maintained at such a constant high level that all former estimates of population increases are now incorrect by a large factor. There is no evidence which indicates in any way that this migration will either markedly diminish or cease. During the decade 1950–60, two-thirds of the population increase was due to immigration. The census shows a growth from 10.5 million in 1950 to 15.7 million in 1960. At this rate of growth, it is predicted that California will have a population of 21.6 million in 1970 and 24.8 million in 1975. Thus, rather suddenly it has become obvious that the physical plant of the State was rapidly becoming inadequate in almost every respect, and that all public and many private enterprises and services would have to be provided in an accelerated fashion in a manner never contemplated before.

Certainly growth in accordance with birth rate is no longer the baseline. It must be calculated from the total of births plus migration. During normal growth periods (birth rate), calculations and adjustments are familiar and can be made, for the expansion is relatively slow and even. However, the immigration phenomenon requires that the facilities and services be available instantly and upon arrival. Yet the tax contribution of the new population lags a year or more behind the demand made upon our facilities upon arrival of the migrant. This includes roads, utilities, housing, and many other things, as well as the educational facilities. Today my own particular interest is in that part of the educational facilities relating to the medical and health related institutions. The result of this almost incredible population increase has been called in the press a population explosion. The effect upon the educational institutions in California, both private and public, has been explosive also. At every level of education from kindergarten and primary and secondary schools through the higher levels of education and professional training, the demands for expansion are tremendous, even almost incomprehensible.

A private school normally can grow in strength and size only over several decades as a result of financial contributions coming mainly from its alumni. However, new residents of wealth have not yet developed strong ties locally and have many commitments in their former hometowns. Thus, a long timelag exists before new private support can be expected from the large migrant group who now need the facilities in their new location. Strong efforts have been made by the existing private educational institutions in California, and it is likely

that their current fundraising efforts eventually will be successful. However, a large part of this money will go to expanding or renovating their general educational programs, and a lesser and rather inadequate amount to their professional medical and other health related programs. Thus, the private medical schools are hard pressed to renovate or improve and enlarge their existing programs.

At present there are four private medical schools in California, i.e., Stanford, Loma Linda, University of Southern California, and the California Medical College (formerly the College of Osteopathy). All of them are currently remodeling and planning to enlarge their facilities. There are three private dental schools—at University of Southern California, Loma Linda University, and the College of Physicians and Surgeons in San Francisco. The University of California has schools of medicine, dentistry, pharmacy, and nursing in San Francisco; at Berkeley, a school of public health; at Los Angeles, new schools of medicine, public health, and nursing, and plans for a new school of dentistry; and at San Diego plans for a new medical school. The costs of the planned expansions in the University of California alone total approximately $67 million. This sum will result in a gain of only 175 new M.D.'s and 96 new dentists per year and provides only minimal facilities for the educational program. In presenting California's problem, it is well recognized that while it is not unique the fiscal problems are no doubt more acute and urgent than elsewhere in the country.

A Governor's committee on medical aid and health has made a comprehensive study of medical education and related problems. Their December 1960 report, "Health Care for California," makes some interesting predictions (p. 51) for the State's projected needs in 1975 based upon the number of first-year places available in 1971 in the medical schools. The projection is based upon a continuation of the present rate of migration, the present ratio of 175 physicians per 100,000 population, and a physician roster of 44,300 with a total population in excess of 24 million in 1975.

It predicts that there will be 1,300 M.D.'s migrating to California annually from out of the State. This is equivalent to the output of 13 out-of-State medical schools. Allowing for out-migration (about 340) and attrition in training, about 1,400 first-year places are needed in and by 1971. Currently proposed new medical schools and expansion of existing schools will provide from 635 to 675 first-year places by 1971. The deficit is thus over 700 first-year places, or the equivalent of 7 new and currently unplanned medical schools to be funded and completed by 1971. Since there is a considerable leadtime in planning, funding, and construction (4 or 5 years) before students can be admitted to a new school, this means that there is an acute emergency in respect to funding of the seven new schools as well as urgency in completing the remodeling and/or expansion of the existing ones by 1971.

The ratio of M.D.'s is higher in California, 175 per 100,000, than the Nation as a whole, 143 per 100,000. There do not exist any peculiarities in the utilization of physicians for 73 percent are in private practice in California in comparison to 74 percent in the United States as a whole. While there is no evidence that the State attracts persons of poor health, statistical studies show that the population in California requires more medical service than elsewhere in the United States, and that there are many gaps in both the facilities and personnel to man them in the area of chronic disease, rehabilitation, organized home care, nursing homes, etc. Expansion of physical plant and facilities for these needs and for hospitals will compete with the funding of needed expansions of the parent and other educational institutions.

Before looking at the costs of the expansion of medical schools by 1971 (i.e., the next 10 years), let us examine briefly the outlay facing the State in the educational field alone. In order to meet the population tide coming from the children now (1961–63) in the primary and secondary schools, it will be necessary for the junior and State college system to construct about $450 million worth of facilities before 1971, and for the University of California to enlarge its present campuses and to build at least two more requiring $1.25 billion for capital plant by 1971. This includes the approximately $60 million for completion of its two existing medical centers (at UCSF and UCLA) and a new State medical school at San Diego.

This huge sum of $1.7 billion for the physical plant of the State's higher educational system does not include the numerous grammar and high schools which local school districts throughout the State will have to fund. Nor does it include the numerous noneducational services and facilities which the State must expand at the same time.

In normal times it is usual to build a medical center or school in stages because of the great expense. If the predictions of many others, as well as those made by the Governor's committee, are correct, there is not time to spread either the increases of enrollment nor, therefore, the funding of these new medical institutions over many years. It must be accomplished in California within the next decade. It is suggested that this financial load is too great for either private philanthropy or the State tax base to bear during this decade.

I have previously commented about the reduced ability of the private medical institutions to raise funds. While California has a large number of excellent private educational institutions, these are generally small with limited student enrollment objectives in order to keep their undergraduate quality high. Few are strongly endowed and almost none look with favor upon accepting the obligation and costs of undertaking the establishment of a new medical school.

Thus, there can be little expectation that more than one, or at best two, private educational institutions would come forward to meet part of the need, and only if large matching funds from Federal sources were available for construction, and if a considerable part of the operating cost could be subsidized also. Thus, if the estimates of the population and the needs for physicians by 1975 are correct, it would appear that most of the cost of construction and operation will fall upon State and Federal support.

I would like now to consider the present state of the existing facilities of the public and private medical schools in California. As stated earlier, the University of California proposes to enlarge its two medical schools by 1966 to graduate 128 new doctors each per year and to add another in San Diego for 100 M.D.'s making a total of 356 new M.D.'s per year at a cost in excess of $60 million.

Stanford has just consolidated its medical school in new buildings on the main campus at a capacity of 64 new M.D.'s per year. There are many gaps in their program, particularly at the graduate level in the basic sciences and in the postdoctoral level of the clinical sciences (see attachment II).

The University of Southern California is planning to move its basic science departments from the main campus to a new site close to the Los Angeles County General Hospital where it will consolidate its undergraduate, graduate, and postdoctoral programs for the first time. Like Stanford its new plant will have many gaps (see attachment III). In the remodeling it will raise its new M.D. output from 72 to 80 per year.

Loma Linda University (formerly the College of Medical Evangelists) is remodeling and expanding its resources at two sites—one on the main campus in Loma Linda and the other at the site of the White Memorial Hospital which is also close to the Los Angeles County General Hospital. The university needs to replace outmoded buildings as well as to increase its instructional and research facilities (see attachment IV). It will continue to graduate 72 M.D.'s per year but will increase its graduate student load.

The California College of Medicine (formerly the College of Osteopathic Physicians and Surgeons at Los Angeles) needs considerable remodeling and replacement of old structures and extensive additions of teaching equipment for the upgraded undergraduate program in the basic sciences. It completely lacks any research facility. If the quality of its educational effort is to be raised and modernized, it wil need a high matching ratio for it has only just now started its campaign to raise funds for construction. It has a 700-bed relatively new wing of the Los Angeles County General Hospital for its clinical program and other useful facilities (see attachment V). It currently graduates 72 new D.O.'s, but may consider lowering the medical student capacity for a while and graduate only 64 M.D.'s. It will not have much graduate student output for a long time and only when it obtains additional space. It will have a modest postdoctoral output.

The total output is thus estimated at a minimum of 636 new M.D.'s per year with the possibility of a maximum of about 675 in 1970. Except for the two existing University of California schools each of which are part of an integrated medical center complex, accounting for their larger size, the private schools tend to restrict their programs to the training of M.D.'s, postdoctoral fellows (interns and residents), and a few graduate students in the basic sciences. Each has some specialties and a few paramedical programs, but they do not attempt to cover the health and medical sciences in a comprehensive fashion. Thus, they are not a large source of teachers in the basic and clinical sciences.

All of the institutions, both public and private, are in need of library expansion. This is particularly true of the California College of Medicine. The creation of libraries for the new schools will be a very expensive and difficult problem.

Costs of construction in California have risen almost 5 percent per year. Construction to be started in midsummer of 1962 is estimated at about $45 per square foot gross (ENR 850) for class A concrete and steel frame building. This is over twice the cost paid in 1950 for the same type of construction. It is an all-inclusive cost, exclusive of land.

In the very thorough and perceptive study of "Medical School Facilities," USPHS publication No. 875 issued in 1961, the average cost of $30 per square foot is used (p. 137) which does not include site improvements, movable equipment or fees. These elements are in the California figure of $45 and are required by the funding procedure of the university and State legislature. This makes quite a difference in the cost estimates. On page 137 of the report, school B is estimated as costing $7,980,000 for the conventional basic science facilities for an entering class of 96 students at $30 per square foot, gross without these extras, while at $45 which includes them, as well as our higher overall costs, our total would be $11,970,000. It is easy to understand why the committee writing the report would wish to avoid including these elements because the local costs may vary greatly from place to place. If these items are left out of the application for matching funds, however, the institution may be left in a bad position to meet these costs afterward. Also applications for matching funds including them might be thought to be unusually expensive.

After reviewing the situation in the California schools and realizing the difficulty of obtaining the needed construction funds from local private and tax sources, it is apparent that H.R. 4999 would meet a very great and urgent need if it were to be approved and enough money were to be made available to the institutions under a matching program. Such support would go a long way toward stabilizing our medical school programs and increasing the number of trained personnel, as well as M.D.'s.

I would like to discuss each of the three parts of the bill separately:

PART A. GRANTS FOR CONSTRUCTION OF HEALTH RESEARCH FACILITIES

In the past few years a great deal of testimony has been brought to bear on the serious deficiencies in research facilities in the Nation's medical schools. Congress has demonstrated its concern with this deficiency by appropriating some $180 million up to 1962 toward meeting this need through their passage of the Health Research Facilities Act. The National Advisory Council of the Health Research Facilities Branch of the USPHS, which is responsible for distributing the funds appropriated under the act, has used great wisdom in its distribution. However, the need is so tremendous that there remain great gaps in every school if the goal is to attain a balance of research of high quality and to promote graduate education in the many disciplines existing in the medical and health related fields.

After spending some 20 years in research in medical schools myself and having some 18 years of administrative concern over the development of medical education and research, I am convinced that we have never truly exploited the full potential of our faculties. There is evidence in every institution that given the space, tools, and budget, our faculties everywhere have the intelligence, imagination, and drive to be as creative as the best in the physical sciences and other disciplines. Each professor can supervise the training of from 1 to 4 advanced or graduate students. In most institutions the number of graduate students is much less than this because there is no space for more than one or two per professor. Here is where expansion can be most effective. There has been considerable experience in the last few years to say that there are enough young people in the universities who can supply the talent for the medical and health sciences programs if there are facilities in which to train them. In the West certainly there has been no lack of well qualified students to fill all of the training opportunties which are available. In addition there are many who go East to find such opportunity. With the population increase and the present nationwide resurgence of interest in science generally, we can expect an even higher percentage of young people in these fields. For the next decade we shall need to increase the number of these graduates and scholars to fill the new teaching posts, as well as to increase the number of practicing M.D.'s.

While the great value of research findings to the Nation's well-being is thoroughly recognized, it is more important at this stage of our development that we recognize the necessity of providing the research experience to the graduate and postdoctoral students in the basic and clinical sciences as a part of their training. The research product is a valuable product, but a secondary one.

I would like to emphasize, therefore, the vital necessity of providing facilities and equipment as a means of increasing our manpower in the advanced fields of our disciplines. If the medical, dental, and public health schools are to be strengthened, the best investment of the institution's dollars and those of the Federal Government is in the matching of any research construction funds which can be raised by the institutions. Through the cooperation of the other deans of the California medical schools, I am presenting forecasts of their needs for the next 5 to 7 years and have separated in attachment I their research-graduate instruction projections from their educational projections. There is an inherent weakness in this process, because the projections for research-graduate instruction facilities have received little support from the administrations of the institutions, both private and public. Research previously has been considered an enrichment and not a source of advanced students. Thus, such projections have been given a lesser priority by administrations to the projections for undergraduate medical, dental, and public health student education. My reason for placing research-graduate student facilities in a higher priority is that most of the schools will have at least some provision for the undergraduate programs and lack adequate support of the faculty-graduate student program. If a higher matching ratio than 1 to 1 were established, the institution's dollar would go much further and the real need would be more nearly satisfied by the funds available to the institution.

The criticism has been made that no dean is ever satisfied and that as a class we are all looking for more money. The reason is clear to me at least—few if any institutions in the country have really planned and been able to fund the completely balanced program for the medical-health sciences. If this were done, I believe it could be shown that while the sums required to build and operate such a program were very large, the cost per student would be comparable to that in the other sciences. This comes about by utilizing the faculty for both undergraduate and graduate-research instruction and balancing the time and energy appropriately between them. The big gain is in the number of advanced students. It may be that only the older and richer private institutions and the public ones can achieve the large student body required to produce these low costs per student.

It follows also that the majority of the private institutions may need to concentrate upon the undergraduate medical student programs with some specialties in the graduate and postdoctoral areas, because of their more limited funds. They probably must accept a higher cost per student, too, in order to keep their quality up.

One other element in the research-graduate picture, and particularly in the case of the public schools, is that State legislatures tend to believe, rightly or wrongly, that since research benefits the Nation as a whole, the support of research should come from a broader tax base than just the State alone. Thus, a generous Federal matching plan in the research construction program is apt to obtain more response from the legislatures across the country. A similar response from private donors is of course obvious, i.e., one of their dollars calls forth $2 from other sources (Federal).

While I suggest with some hesitation that a broad or sliding scale of matching might be very useful to the Council in meeting some very meritorious request, I realize that such a provision would place a heavy administrative responsibility upon them. Perhaps it would be fairer to set the matching ratio at 2 to 1 as proposed in H.R. 4999, but I respectfully suggest that this option to make adjustments be discussed by the honorable members of your committee.

PART B GRANTS FOR CONSTRUCTION OF MEDICAL, DENTAL, OSTEOPATHIC, AND PUBLIC HEALTH TEACHING FACILITIES

There is no doubt that many schools across the Nation need additional funds for remodeling and enlarging the educational facilities of their existing plants in medicine, dentistry, and public health. Many changes have occurred in the medical and health fields as a result of the large volume of research which has been supported by the Congress through the National Institutes of Health and other Federal and private granting agencies. These advances must be reflected in the undergraduate (and postgraduate) curriculums and require many changes in laboratory facilities and procedures, as well as equipment. Better methods of teaching have also occurred and reorganization of the basic science undergradute student laboratories is being projected. This is certainly true in California schools as inspection of the attached tables and letters will indicate.

There is no way of separating research from teaching in these professional schools nor can an undergraduate program exist for long at a high level of quality unless the faculty have some way of keeping up to date. The conduct of research, the supervision of the research of the graduate student and postdoctoral fellow, and the interpretation of the results of research to the undergraduate during his instruction are inextricably entwined if the greatest benefits are to be derived by all concerned. Thus, in planning for undergraduate instruction provisions for faculty cannot be just an office, but must include laboratory facilities for the faculty and at least one "fellow" (research student). Interestingly enough, recognition of this factor occurs in the recently issued USPHS Report No. 875 "Medical Facilities." Most of us would consider this an excellent model but on the minimal side, for it provides for expansion by addition of research wings which are considered enrichments and of second priority. I would consider this to be true only in a new school for obvious practical reasons.

If the Nation needs more than 10 new medical schools by 1975, and some have estimated the need at about 20 (Bayne-Jones report, 1958) and if matching is made on a 2-to-1 basis, for 10 schools a total of some $350 million will be needed between 1962 and 1972 to get the new schools underway. Of this $300 million, some $116.6 million will need to be raised by the institutions and $233.4 million provided by Federal support. If 20 new schools are needed, the amount of course would be twice this. New teaching facilities for expansion of existing schools would raise this total even more. It is unlikely that these sums can be raised quickly by either private or public schools, particularly since either enlargement by building new teaching facilities or starting a new school requires sustained operating budgets of considerable magnitude. While construction may be considered to be a nonrecurring expense, few, particularly in the private field, can establish the resources for operation quickly.

Thus, a considerable time may elapse before applications can be made for matching, and a very large sum may be required 3 or 4 years after passage of H.R. 4999. My point is that it might be well to make a provision in H.R. 4999 whereby funds could be carried over to meet this contingency for expanded and new teaching facilities. It is my opinion, without going into detail, that it will require an average of nearly $100 million per year of matching funds for 10 years to bring the educational system in the medical and health sciences up to the need for manpower in this field. We are that far behind in meeting the current and projected demands. Parallel should be an equal amount for research facilities to build up the graduate and postdoctoral manpower resources to staff these increased facilities and to do research for the Federal and private organizations.

This total expenditure of $2 billion of Federal matching funds in physical plant is certainly in the Nation's interest in every way.

PART C. SCHOLARSHIP GRANTS TO SCHOOLS OF MEDICINE, OSTEOPATHY, OR DENTISTRY

Experience in our State-supported school indicates that before graduation over one-half of our medical students have borrowed money, and many need to continue borrowing during their internship and residency period. The proportion is probably not as high in the private schools, but it is a problem there too. This debt prevents many students from continuing in their postdoctoral education, and is a particular handicap to those considering teaching as a career. Thus, they go into practice after their internship. The private practitioner today would benefit greatly by an additional year of training. Because he cannot do this, many of us feel that we have slipped backward in turning out physicians better prepared to meet today's demands upon him. In addition, we believe that we are missing many highly qualified students in all of these fields because their financial resources are inadequate. Their program is longer and more expensive than that of the advanced student in the physical and engineering sciences where scholarships are available.

May I respectfully request that this part of H.R. 4999 be given your full support.

On behalf of the deans of the California schools of medicine, I would like to express our appreciation for the opportunity afforded me to submit these opinions for your consideration. So that there will be no misunderstanding, I would like to state that what I have said about these problems in research, education, and scholarships applies equally for medicine, dentistry, and public health.

STAFFORD L. WARREN, M.D.,
(For the ad hoc committee of the Medical School Deans of California,
Pacific Palisades, Calif.).

ATTACHMENT I

5 to 10 year projected construction needs of California schools of medicine—Authorized, but unfunded 1961, funding needed before 1966, completion needed by 1971

[In millions]

	Teaching undergraduate	Research graduate
California College of Medicine	$10.000	$5.000
Loma Linda University	6.500	7.000
Stanford University	24.800	4.400
University of Southern California	3.100	6.500
University of California:		
San Francisco [1]	10.452	14.840
Los Angeles [3]	[2] (7.461)	[2] (10.079)
	[3] 30.900	[2] (12.700)
	[2] (6.500)	
San Diego	[2] [4] (7.300)	
3 new medical schools only	25.000	(?)
7 new medical schools only	[5] (100.000)	(?)
	[5] (231.000)	(?)
Total, authorized	110.752	37.740
Total, projected unauthorized	[2] (252.261)	[2] (22.779)
Total	363.013	60.519
Grand total, 5 to 10 year projected (authorized and unauthorized) construction needs of California schools of medicine	423.532	

[1] Includes medicine and dentistry.
[2] Items enclosed in parentheses are projected, but unauthorized.
[3] Includes medicine, dentistry, and public health.
[4] Public health.
[5] Estimated.

ATTACHMENT II

STANFORD UNIVERSITY SCHOOL OF MEDICINE,
STANFORD MEDICAL CENTER,
Palo Alto, Calif., January 15, 1962.

Dean STAFFORD WARREN,
School of Medicine,
University of California Medical Center,
Los Angeles, Calif.

DEAR DEAN WARREN: Inasmuch as I cannot be present in Washington, D.C., the week of January 22 to testify for the Stanford Medical School in connection with hearings relative to H.R. 4999, I am forwarding under separate cover 60 copies of our projected needs.

You will note (1) a new building for fiscal year 1963, clinical sciences and concomitant remodeling of existing facilities; (2) medical school II and Lane II for fiscal year 1966; (3) Edwards II in fiscal year 1968 or fiscal year 1970.

Programing for the clinical sciences building is proceeding. This building represents completion of phase I of the new Stanford Medical Center and is to provide clinical research space planned, but not built, prior to the move from San Francisco in 1959, as necessary for our educational program at its present level.

Medical school II and Lane II, "duplicating" present so-named buildings, would provide space for (*a*) anatomy, microbiology, and physiology presently elsewhere on the campus, (*b*) additional space for Lane Medical Library, and (*c*) additional basic medical science teaching laboratories for pre-M.D., pre-Ph. D. and paramedical students.

Edwards II is in no way tentatively programed but it is appreciated that new or different interests will undoubtedly justify such space by 1970.

No space for a school of dentistry or pharmacy is contemplated. Present plans in nursing, physical therapy, and speech pathology-audiology do not envision expansion.

I trust you will be prepared to advocate a matching basis more realistic and favorable than the present 1:1, for I am sure we shall find moneys from nontax sources progressively harder to get.

We at Stanford, like our sister California medical schools, appreciate your time and effort in behalf of the citizens of our State and country. To this, I add my own personal thanks.

Yours sincerely,

ROBERT H. ALWAY, M.D., *Dean.*

STANFORD UNIVERSITY SCHOOL OF MEDICINE, STANFORD MEDICAL CENTER, PALO ALTO, CALIF.

Projected needs for construction of facilities for research and research training in the sciences related to health

Building	Gross area square feet	Estimated cost per square foot	Total cost	Year funds needed (fiscal year)	Percent devoted to research
Clinical sciences	115,000	$45.00	$5,175,000	1963	90
Remodeling [1]	16,500	20.00	330,000	1963	90
Medical school II	102,000	52.00	5,304,000	1966	75
Lane II [2]	100,000	52.00	5,200,000	1966	75
Edwards II	100,000	57.50	5,750,000	1968	90
Edwards II	100,000	63.30	6,330,000	1970	90
Total to 1968	433,500		21,759,000		
Total to 1970	433,500		22,339,000		

[1] Existing (1962) 377,495 exclusive of hospital and core.
[2] Includes Lane Library expansion and additional basic medical science teaching laboratories for pre-M.D. pre-Ph. D., and other students.

ATTACHMENT III

THE UNIVERSITY OF SOUTHERN CALIFORNIA SCHOOL OF MEDICINE,
Los Angeles, Calif., January 15, 1962.

IMMEDIATE BUILDING NEEDS

In 1949, the board of trustees of the University of Southern California purchased a 12-acre site across the street from the Los Angeles County General Hospital for a medical campus, which would afford the opportunity to consolidate its teaching and research programs.

For many years the first 2 years of instruction were given on the University campus while the clinical instruction was given at the Los Angeles County General Hospital 9 miles away. Although the University of Southern California has had a school of medicine since 1885, the decision to consolidate the medical campus requires the raising of funds for the construction of all new buildings for its medical school teaching and research programs. In 1952, the B. O. Raulston Research Building was completed. During 1960, two additional buildings were completed. One, McKibben Hall, is the multidiscipline teaching laboratory building for first- and second-year students. The other is the Seeley Wintersmith Mudd Memorial Laboratory of the Medical Sciences. It contains the research laboratories of the faculty in the basic sciences, including anatomy, biochemistry, microbiology, pharmacology, physiology, and the research laboratories for visiting scientists.

In 1959, four additional buildings to be constructed on the medical campus were authorized by the board of trustees of the University of Southern California. Again, construction of these buildings is dependent on a successful fund raising program.

These buildings include:

(*a*) Student-faculty building, containing a cafeteria, a private conference and dining rooms, locker rooms, faculty women's lounge, men's and students' lounge, etc. The present estimated cost of this building is	$800,000
(*b*) Library building, housing 100,000 to 125,000 volumes. The present estimated cost of the library is	1,270,000
(*c*) Postgraduate school, lecture hall (500 seating capacity) and Administrative Office Building. The present estimated cost is	990,000
(*d*) Medical research building: This building is to house the research laboratories of the departments of pathology, medicine, pediatrics, surgery, obstetrics and gynecology, preventive medicine, public health, physical medicine and rehabilitation, and additional space for expansion of research training and research in the basic sciences. The present estimated cost of this building is	6,500,000
The total present estimated cost of th above four buildings is	9,560,000

With the completion of the above medical school facilities, the University of Southern California School of Medicine will have the environment to increase both its graduate (basic and clinical sciences) training programs, and increase its present medical school class from 72 to 80 students.

Under the National Institutes of Health research facilities program, the University of Southern California has received $854,500 and $45,345 in matching funds respectively for construction and equipment of the Seeley Wintersmith Mudd Memorial Laboratory of the Medical Sciences. And a nonmatching grant of $685,000 toward construction of the Raulston Research Building.

CLAYTON G. LOOSLI, M.D., *Dean.*

ATTACHMENT IV

LOMA LINDA UNIVERSITY,
SCHOOL OF MEDICINE,
Los Angeles, Calif., January 16, 1962.

Dr. STAFFORD L. WARREN,
Dean, University of California Medical Center, School of Medicine, Los Angeles, Calif.

DEAR DR. WARREN: In accord with your request, I am submitting a brief report on the plans for this school of medicine over the next few years. You are acquainted with the fact that during the 52 years of its existence this school of medicine has operated on two campuses in a manner whereby the first 2 years, which includes the bulk of basic science teaching, is on the Loma Linda campus and the last 2 years, which includes the bulk of the clinical teaching, is on the Los Angeles campus. The desirability and actual necessity of having basic science teaching located geographically in a manner which would permit close integration with clinical teaching has been known for many years. Recently, the board of trustees has committed itself to the construction of a basic science building on the Los Angeles campus for the purpose of teaching 4 years of medicine there.

Perhaps the major problem which projects itself into this planning is a financial one, namely, the lack of funds adequate to do the job. Also, on the Los Angeles campus there is great need for new and expanded facilities for the faculty in the clinical departments. As of the moment, the architect is working on plans for buildings to accommodate these functions, and it is our hope that these will have been completed within the next few years.

Briefly these facilities which are planned are as follows:

(1) A basic science building which will accommodate all basic science departments with classroom space, laboratory space for student use, and necessary facilities for the faculty. The estimated cost is around $4 million.

(2) A library building. Currently, the school has two libraries, one at Loma Linda and one in Los Angeles. The one at Loma Linda is quite adequate but is being expanded soon in order to accommodate additional books and periodicals for the graduate school. The library in Los Angeles is very inadequate and has been for many years. When the basic science departments and teaching

are established in Los Angeles within the next few years, it is essential that a new library building be constructed in order to accommodate this additional service. The estimated cost of library facilities, for this purpose, is approximately $1 million.

(3) Clinical departments are very inadequately accommodated, and it will be necessary to construct entirely new facilities for this purpose. The cost of this building will be approximately $7 million.

(4) In the construction of the new buildings some of the old ones must be destroyed. Currently, the administrative officers are within such a building. Construction of a new building for administrative purposes will cost approximately $1½ million.

The estimated cost for this total construction, plans for which are already on the drawing boards, will be approximately $13½ million.

I believe that you are already acquainted with the fact that it is our intention to continue basic science teaching on the Loma Linda campus for medical students. Thereby, there will be a possibility of increasing the total enrollment within the school of medicine so far as available accommodations are concerned when this total project will have been completed. Although eventually there will need to be an expansion of hospital facilities, I am not mentioning this here in a specific way because it is somewhat different than construction for medical education purposes.

I hope that this brief report will be of help to you in the presentation of your testimony to the Committee on Interstate and Foreign Commerce of the House of Representatives when it meets on January 24.

Very sincerely yours,

W. E. MACPHERSON, M.D., *Dean.*

ATTACHMENT V

CALIFORNIA COLLEGE OF MEDICINE,
Los Angeles, Calif., January 16, 1962.

STAFFORD L. WARREN, M.D.,
Dean, UCLA School of Medicine,
West Los Angeles, Calif.

DEAR DEAN WARREN: This is to confirm the telephone conversation I have just completed with you.

In the plans for the developing of this institution, our program includes the following recommendations to be found in the Public Health Report No. 875 which is a study of medical school facilities.

It is our estimate that we will need, in the next few years, about $10 million to modernize our present laboratories and equip them for a modern medical educational program.

It is also our plan to develop the graduate program and postdoctoral training. This, of course, involves the expansion of the research program. It is our estimate that this will require another $5 million.

Our library is cramped, not only for table space, but also for shelving and back-journal files, and for storage and workrooms.

We greatly need assistance for the library necessary to meet the demands of the school of tomorrow.

Yours sincerely,

W. BALLENTINE HENLEY, *President.*

ATTACHMENT VI

JANUARY 15, 1962.

Dr. STAFFORD L. WARREN,
Dean, School of Medicine,
University of California Medical Center,
Los Angeles Campus.

DEAR DEAN WARREN: The enclosed statement is transmitted in response to your request for information on the needs of the University of California, San Francisco Medical Center, for construction of teaching and research facilities.

As you will see, the information is presented and explained in three categories: already funded projects; projects accepted by the university adminis-

tration for inclusion in the building program but not yet funded; and projects beyond the building program. I should point out that several of the needed facilities listed in the third category are considered of such importance that it should be possible to bring them into the university's building program in the very near future, particularly if Federal or other non-State funds become available to assist with their financing.

J. B. DEC. M. SAUNDERS, M.D., *Provost.*

UNIVERSITY OF CALIFORNIA,
SAN FRANCISCO MEDICAL CENTER,
January 15, 1962.

SPACE AND FACILITIES REQUIREMENTS

In response to recognized needs, in California and throughout the Nation, for increased numbers of medical and health personnel, the long-range plans for development of the University of California, San Francisco Medical Center, call for training of more students in every category of the health sciences. Significant increases are projected not only for enrollment of regular medical and dental students, but also for training of academic graduate students in the health sciences, postdoctoral professional students (interns and residents), trainees in research, postgraduate fellows, and technical specialists of various kinds.

In the years 1961–62 the fourth-year class of the school of medicine has risen to 100 students, thus completing the increase in medical student enrollments from 75 to 100 students per class which was initiated in 1958–59. Plans are now being developed to initiate a further step increase, to 128 students per class or a total of 512 in the regular undergraduate curriculum within the next few years if the needed additional facilities are provided. The number of dental students will also be increased from 75 to 100 students per class, and the enrollment of academic graduate students in the basic health sciences in the schools of medicine and pharmacy will approximately double.

In addition to the planned growth of the regular student teaching programs, the associated research programs conducted by such units as the Cancer Research Institute, Cardiovascular Research Institute, and Hooper Foundation for Medical Research must be expanded; a substantial expansion of the Langley-Porter Neuropsychiatric Institute—operated jointly by the university and the State department of mental hygiene—is needed and is being planned; and the school of medicine teaching services at the San Francisco City and County Hospital, where the third-year medical student class receives its instruction, must be further developed and adequate faculty research facilities must soon be provided there.

A program for a new Neurological Research Institute is also being developed, and proposals have been made or are being drawn up for new facilities to house programs in rehabilitation, biomechanics research, and environmental health and occupational medicine.

The data presented in the following paragraphs includes only facilities for direct teaching and/or research, and the hospital and clinic facilities essential to the teaching and clinical research programs. Space for administrative, maintenance, or other ancillary supporting services has been excluded.

Funded projects

	Gross square feet	Cost
Health sciences instruction and research building	280,000	$11,700,000
Additional campus research facilities	66,000	3,140,000

Although it will help meet needs related to the further increase of medical student classes to the 128-student level, and to the increase of dental student classes to 100, the Health Sciences Instruction and Research Building was needed and planned in connection with the previous increase in medical student classes from 75 to 100, and the project was funded by the State prior to the decision to plan for further increases beyond the 100-student level. Almost one-half of the space provided by this building will be for replacement, the net

addition to campus space being 164,000 gross square feet, as compared to the 280,000 gross square feet shown for the total project. The additional campus research facilities project was funded by a U.S. Public Health Service construction grant under the health research facilities program.

Projects included in university building program but not yet funded

	Gross square feet	Cost
1. Clinics expansion project	139,000	$5,416,000
2. Expansion of teaching facilities	37,400	2,058,000
3. U.C. Hospital conversion, steps 2 and 3	64,000	2,678,000
4. School of dentistry addition, clinics building	5,800	300,000

Clinics expansion project.—The existing clinics building was constructed about 30 years ago when medical student enrollments were at the level of approximately 60 medical students per class, and less than 40 dental students per class. The clinics expansion project was originally planned as a part of the facilities requirement associated with the increase in medical school classes to the 100 student level, but plans for this project have recently been enlarged in view of the projected further increases in both medical student and dental student enrollments. Because of known and prospective limitations on State financial support, however, it has not been possible to provide for all identifiable needs within the existing university building program. Therefore, in recognition of the need for future expansion, the physical structure is to be built with the reinforced foundations needed for subsequent construction of additional floors.

Expansion of teaching facilities.—The already funded health sciences instruction and research building and additional campus research facilities project will meet present teaching and research facilities needs at the level of 100 medical students per class, and will help significantly to meet expanded needs for research facilities at the 128 student level. However, these projects will not provide the needed expansion of teaching laboratories to accommodate 128 student classes; nor will they meet all the needs for office and research space for the new faculty which must be added as enrollments in all student categories continue to rise. Additional requirements for these purposes have been estimated at about 75,000 gross square feet, at a construction cost of about $3,800,000. Only about one-half of this amount is included in the university's building program.

University of California hospital conversion steps 2 and 3, will add about 120 hospital beds and will complete the renovation of the old teaching hospital which was initiated several years ago.

Additional facilities requirements

Included here are needed additional projects, beyond the existing University of California building program, and for which there is no assurance that construction funds will become available in the next 10 years. The programs for a few of these projects are still being developed, but most have already been proposed in the San Francisco Medical Center's presentation of its building needs to the university administration.

	Gross square feet	Cost
1. Further expansion of teaching facilities	37,500	$1,750,000
2. Additional floors, clinics expansion project	60,500	2,380,000
3. Biophysics unit	13,300	760,000
4. Expansion of pharmacy graduate teaching program	13,200	750,000
5. Expansion of medical library	18,000	750,000
6. Medical research addition No. 3	20,600	1,180,000
7. Neurological Institute	46,600	2,450,000
8. Institute for human disabilities and rehabilitation	98,000	4,400,000
9. Research and teaching facilities, San Francisco City-County Hospital	16,700	700,000
10. Expansion, Cancer Research Institute	21,500	1,380,000
11. Expansion, Cardiovascular Research Institute	9,300	600,000
12. Institute for environmental health and occupational medicine	12,500	440,000

The first two items above are designed to fill out the needs for clinics expansion and expansion of teaching facilities as explained in the previous section. Item No. 4 will provide space for the planned expansion of graduate student enrollments in pharmaceutical chemistry. Medical research addition No. 3 will meet long-recognized and already pressing needs for expansion of surgical laboratories. large animal housing, and the Radioactivity Research Center. The proposed Neurological Institute will integrate existing research on the nervous system and provide facilities for a multidisciplinary approach to studies of the brain and its diseases.

The Institute for Human Disabilities and Rehabilitation would bring together in one project separate proposals which had previously been made to establish a rehabilitation center and house the activities of the Biomechanics Laboratory, now widely scattered in loaned space, and it would provide needed facilities for specialized clinical service and training programs. The need for adequate research and teaching facilities at San Francisco City-County Hospital will become critical with the increase in medical student classes to 128. It is expected that the city of San Francisco may assist in funding these facilities.

The institute for Environmental Health and Occupational Medicine will be developed by the school of medicine in cooperation with the school of public health.

ATTACHMENT VII

UNIVERSITY OF CALIFORNIA MEDICAL CENTER, LOS ANGELES

Estimated costs for construction of teaching and research facilities (all estimates on ENR 850)

[In millions]

	Education	Research
A Authorized:		
To enlarge the entering class of medical students from 56 to 128 and to provide basic science curriculum for 2 years of dentistry with an entering class of 96 dental students (1962 and 1964)	$25.0	
To construct the other facilities for support of entering class of 96 dental students (1963)	5.9	
B Authorized:		
Projected research and graduate training facilities for the dental school		$1.7
Projected enlargement and relocation of the school of public health (1965)	7.3	
Projected research and graduate program for school of public health		2.0
Projected completion of graduate program for school of medicine		9.0
Projected completion of undergraduate and postdoctoral clinical program of the school of medicine (1971)	6.5	
Totals	44.7	12.7
Grand total	57.4	

Estimated projected total medical center student body, 1975

Medical students	512
Dental students	384
Predoctoral and postdoctoral fellows	200
Interns and residents	400
Masters and Ph. D. candidates	240
Paramedical students	514
Public Health students	250
Estimated total	2,500

Dr. WARREN. And I have given your staff an official publication, a "Report of the Governor's Committee on Medical Aid and Health, Health Care for California," which I will refer to rather frequently, but I felt that it was so large that I should not request its incorporation in the record.

I would like to as briefly as possible point out two things: one, a rather peculiar situation that California is in because of the huge migration of people into the State over the last 15 years, and then paint a picture of the problems which medical schools and their administrations have in creating and organizing, building, and operating a medical school.

In my statement for the record, I have pointed out that the population in 1950 of the State of California was 10½ million. In 1960 it was 15.7 million. It is predicted that in 1965 it will be 21.6 million. In 1970 it will be somewhere between 20 and 25 million, and in 1975 it might even double what it is now; but it will be somewhere between 25 and 30 million.

The impact of this growth, which represents an increase in the population of 5 percent a year, is quite extraordinary. In fact, I think you could say its effect was something that staggered your imagination. Right after the war, as in the case of most States, the State and all of the enterprises in the State went about improving, repairing, and expanding the resources in the way of schools, highways, factories, and things of this sort, which had to be held in abeyance. Some States, like California, accumulated what they call a rainy day fund; namely, they didn't expend all the tax income during the war period and banked this against this time when they had to repair their resources and facilities. It was in that period that the University of California achieved a priority to start a second medical school in Los Angeles and I was appointed as the dean.

I have had the opportunity of working for 25 years in the University of Rochester, in Rochester, N.Y. I came there during the building of the school. It is a private institution and Dean Anderson was here and testified for the American Association of Medical Colleges.

I think from this experience I have considerable knowledge about the problems of a private institution, and I have been 15 years in a State institution up to now. The problem in the State is quite different and something like this. The planning can be done on the basis of the birth rate in a rather steady and easy way. It has been familiar and predictions could be made that forecast needs in almost every area; but in California the opinion was widespread among the administrators that this immigration could not last and should be discounted. It was very marked during the return of the veterans. The universities and all the schools expanded. There was the refresher program put in for the doctors that had been trained on the accelerated program during the war.

Under the GI bill, these men went back to school and got their residencies and postdoctoral program. Then there was a slight lull and then the veterans began to return from the Korean war. Very few institutions during this time refurbished their plants. In fact they were rather apathetic about this. This was true all over the country, but to a great extent in California.

About 6 years ago it became apparent that this flood of immigration was not stopping. In fact it was almost at a steady rate with some ups and downs. Then committees began to arise of laymen and professionals in health and medical care. These made investigations. The legislature had very many committees in the same way, and enough momentum was developed so that they began to accept the

fact that we were in trouble, that our population was skyrocketing, and that something had to be done about it, so many plans were laid.

There is still a great uncertainty as to the slope of the curve of the rise of this tide of people. I think it is important to recognize the fact that when a family migrates into the State they expect to put their children in the schools the next day. They expect to use the highways. They expect to be able to buy a house or rent a house with sewers and all of the utilities available.

We now have lost so many citrus orchards that we are drinking orange juice from Florida and we get our grapefruit from Texas. I think Mr. Younger probably knows something about this, too.

The greatest part of this new population, almost 2.5 million, has settled in the Los Angeles area, about a million in the San Francisco area, and others elsewhere.

My point is they do not support the tax income base until after they have been there essentially a year, on the average 6 months, of course, but they demand facilities now. If you will look at our problem, you will see that we have put many bond issues out at all levels of government and there is serious question, or discussion at least, about the extent to which we can stretch our credit.

The analysis has been made from the number of schoolchildren in the high schools and grammar schools at this point, and the design then for the higher education levels has been predicted from this, and this is pretty good evidence of the need that is to be expected and projected to 1971 or 1975.

I can tell you that under the new plan of higher education there will be about 400,000 students in the State colleges and the junior colleges, and somewhere in the neighborhood of 120,000 in the University of California. I know there are figures in excess of that, but on this basis the university has finally bought two new campuses, has decided to expand Berkeley to 25,000, UCLA to 25,000, and the other campuses are prepared to rise in their facilities to meet this demand. Calculations as to the cost of this higher education for the junior and State colleges indicate $450 million. For the university it is $1,200 million, wihch means a total investment in physical plants for the university, the State, and the junior colleges of $1,700 million by the period 1965 to 1971.

In my case, as a dean of a State institution, a medical school, it was necessary for me to study very carefully the needs in my area and under my instructions from the president, I was to develop a medical center in which there was a medical school, a school of nursing, a school of public health, and probably a school of pharmacy.

During these 14 years it is quite evident that we are in need of training of all of the paramedicals, those who assist the doctor in his practice. The Governor appointed a committee which issued this publication that I referred to previously, the "Health Care for California," in December 1960. I would like to just read you the recommendations of this committee, and, remember, this is a committee of citizens from all walks of life and they were assisted by a knowledgeable staff from the department of public health:

The committee recommends: (1) That Califorina proceed at once to expand medical educational capacity in private and public institutions with the goal of 1,400 first-year places by 1971, (2) that California proceed at once to expand

dental education capacity in private and public institutions with a goal of 785 first-year places by 1971, (3) that California proceed at once to expand professional nursing and educational capacity in public and private institutions, (4) that California proceed at once to expand education capacity for social workers, clinical psychologists, public health workers, et cetera.

There are other recommendations too, but I read these, which gives you a sense of emergency which is felt by the State government and by the university.

Now, in reviewing the need, it is estimated on a conservative basis that California will need 44,300 physicians by 1971. Interestingly, we have had a migration of physicians into the State. It is not quite up to the migration of others, but it is almost a cross section, and we take each year into our State, and this is expected to continue, the complete output of 13 medical schools of the Nation each year.

In other words, we have 1,300 physicians migrating in. This is a contribution which we feel, of course, is justified since we are taking the citizens from other States and have to provide the resources for them, and it is a good thing for us that these physicians come along with them.

It is estimated, to take care of the death rate, and the dropouts, and other attrition, that we should graduate 1,400 new doctors a year. If we refurbish all the plans, the 6 medical schools, and bring them up to capacity, and we add a seventh, we will put out in 1966 675 new doctors a year, leaving a deficit of 725. This is approximately the output of seven more new schools.

I would like to discuss a bit the problem of private medical schools and the difficulties in raising more funds. I have gotten from the administration of these schools some information which might be of interest to you. I am trying now to give you information in answer to some questions which I have heard in the last few days that are not in my testimony.

Since the war the medical schools and the universities of private institutions, have tried to raise money with great effort. Stanford has raised $13.2 million in the 7 years up to 1961, and that went into their rejuvenation and reunion of their school in Palo Alto which has just been completed, to the point that they are now, and I will remark something about that later; USC, $2,400,000 in 5 years; Loma Linda, which is the former College of Medical Evangelists, $5,964,000, between 1953 and 1960, 7 years; formerly the College of Osteopathy, which is now the California College of Medicine, $150,000 in 3 years. That is a total of $21,500,000.

The dental schools in the private institutions, USC, raised $1,368,000 from 1955 to 1960, or 5 years, and last year raised $250,000, or a total of $1,600,000.

The State schools have not been inactive. I find that I cannot depend upon the State to provide resources in many areas, particularly special ones, so that we have gone out to raise money, and we were able to get a gift from Marion Davies for a children's clinic, but it took 8 years to convince the donor that this was a good thing to do.

The Los Angeles Arthritis and Rheumatism Foundation have given us $100,000 for the rehabilitation of a laboratory. The University of California at San Francisco has several endowments which were available prewar, but they have received nothing since. In other

words, from private sources in the State since the war, $24,200,000 has been raised.

I have shown you in the testimony that the various schools are undertaking campaigns now, Stanford to raise $24 million, USC to raise $5 million, the College of Medical Evangelists hasn't set its goal yet, and University of California has a considerable sum to invest on a priority that extends over a series of years.

It is my estimation, and I show this on the first page of the attachment, that California will need to put out from private and State funds or other sources by 1971 in order to be ready for 1975 $423 million to bring these schools up to the steady state that I mentioned earlier of 675 new doctors a year, leaving still a deficit of some 700 new ones a year.

A private institution may look at their costs, and this is intimidating to a new institution, particularly to a letters and science college, or a small college. We have many fine small colleges in the State, but very few large enough to undertake this sort of thing. If you look at a small operating budget, the most economical school is a a school of 64 students per class, and most of the private schools are at this level. This probably costs from $7,000 to $9,000 a year per student. The cost-per-student is not revelant here, perhaps. It is the total amount of money that the private institutions can raise for operating each year.

The 96-student level is perhaps the next one. In the report from the Public Health Service on medical school facilities construction, No. 875, there is a minimal operating facility proposed there for 96 students and they recommend that this is lower in cost-per-student than the one at 64 and the facilities don't cost very much more, but the operating costs go up, even though the cost-per-student might be reduced by a thousand dollars or more.

In my own case I have started with a school of 26 students in temporary buildings, tried out a curriculum while our own building was being built, and went to 32 as soon as we could. This was the limit of the number of kneeholes in the benches in the biochemistry laboratories, and anatomy, and so on. In our new building the legislature wanted us to start at 100. When they found out how much it was going to cost, they said build it half-size, but build it to be expanded and to expand the other schools on it, so we are in a building which cost $22 million in 1950 to 1957 while it was being built, and we are teaching 56 students per class. By the expenditure of $30 million more, I can cut the cost from $7,000 a year per student to between $3,000 and $3,500 a student, and train, in in addition to the 128 medical students per class, 96 dental students in each of the first 2 years by pooling the faculties; because the enlargement of the student body does not require any more professors, but the slack is taken up by teaching assistants and instructors who are less costly and, therefore, as the student numbers increase the cost-per-student falls.

The goal eventually is 2,500 students in this center and these will be distributed, among the medical school 512, the dental school 384, predoctoral and post doctoral fellows 200, interns and residents 400, masters and Ph. D. candidates 240, paramedical students—that includes nurses—514, and public health students 250.

That is 10 percent of our campus' goal of 25,000 students, and we have found as the population in our campus has gone up that the number of qualified students coming in for entrance to the medical school has improved greatly. In starting this school we realized we would have to proselytize our leadership among the various disciplines from other institutions, but we would have to get a large bulk of our younger people from our own resources.

Fortunately, the National Institutes of Health and the private granting agencies were in a position to supply research grants and later training grants. Now we are probably among the top 10 in the dollar volume of our research and training grants and this serves us 2 purposes: One, if we have good scholars in our leadership doing good research we can get others to come on the faculty to join a powerful teaching and research team. The word gets around to the students that our pedagogy is apt to be of high quality so we get good students.

Thirdly, and not least of all, we get good graduate students in the basic science and these become our teaching assistants and our instructors, and we have staffed about a third of our organization from this source. There was no other place much to get these from.

I would, therefore, like to pay great tribute to the wisdom of Congress in setting up the NIH system and the grants and training programs, for today I think almost the entire graduate and research postdoctoral training program of the medical schools in this country derives its strength from this source. This was not mentioned here before because the research was only talked about in reference to the product of the research. The gain by the Nation as a whole from the knowledge of this research is important, but from my pragmatic standpoint the gain from the manpower was as important and it will continue to be important as we staff the vacancies that will be available when the school and its accessories are enlarged.

The source of students has been a question raised here. As I said, we have derived our teaching strength in the junior levels from the new trainees and we find that as we build our institution and expand in all directions time passes and we can tap the resources of these new students who come in. In other words, the market is not static and we can improve it and take advantage of it.

We have organized, together with the private schools, teams to go into the smaller universities and into the big State colleges to talk about medical education and the prospects of good students coming into our field. We have in our own building had about 2,000 high school students on Saturdays who have come to look at our equipment and listen to our proposals.

We have had to, as a State school, accept perhaps a larger number of students from the lower economic levels than the private schools, although they accept some too, and we have had to get money to support these students on loans and scholarships. We have 12 scholarships now from Samuel Goldwyn, Anna Bing, Carolyn Lyle Davis, and so forth, and the Hollywood Canteen loan program. This is 6 to 8 a year. We have put out in loan funds from private sources something like $150,000 since we have opened. We are graduating our eighth class.

The university has $600 loan funds, $600 being the maximum. This is only suitable for emergencies and must be paid back in a relatively short time.

A couple of things were not discussed when you were discussing the difference between loans and scholarships. I would like to point out that these students, while they may think they are, are not really mature. Very few of them have had any business experience. Over half of the class probably are from the families of lower economic levels. Many of them are from very conservative families. Some of them have revolted and it is very frequent for the application to say "I have saved $2,000 and I am getting married this June and my wife will work while I am going through the medical school."

Well, of course, this is ridiculous. First, $2,000 will hardly pay much more than his board and room and his tuition. In our place where the student has to travel almost 30 miles to classes for part of his clinical work in the county hospital in Torrance, he has to have a car and he usually buys a jalopy. He has a high insurance and he runs out of tires and he has mechanical troubles, so his car costs him something like $2 a day, so that before the year is over, even though our fee is very small, he is required to have nearly $2,700 to $3,000 to stay in school.

We have organized a large voluntary group among the women who try to raise emergency funds for these students. Fortunately, our problem has not been too great yet because the numbers of our students are low. We have almost no alumni. In fact the first graduating class of 26 represents really our only alumni, so we cannot look to them for support.

In this revolt from the family, the student is very wary about becoming entangled with financial debt. He doesn't know much about the future. He has heard a lot about the fact that doctors make a lot of money, but when he talks to the younger graduates, he finds that they are not rolling in wealth yet. A great many of them are having a hard time repaying their loans. They are just able to get along. They either live in a rented house or they have a heavy mortgage. They have children ready to go to school, and they don't have any leeway.

Therefore, I would like to see this scholarship element in the bill passed. I don't think our experience is particularly unusual.

One mention was made, rather delicately, earlier that plans to not have a family often go awry and this precipitates a financial crisis, and we have had students whose grades go down and who threaten to leave school because they cannot make the grade financially.

There are many other things I could talk about, sir, but I think I have covered those that were not covered by previous speakers, and I think I will stop here and be glad to answer any questions.

The CHAIRMAN. Thank you, doctor. We are glad to have your statement. Any questions?

Mr. YOUNGER. Yes. Dr. Warren, as a Californian, I am very happy to welcome you here to the committee and congratulate you on your help in this problem.

If I understand your remarks, it has been almost impossible from private sources to raise the amount of money necessary for construction, brick and mortar funds?

Dr. WARREN. Yes, sir. The difficulty in just keeping the operating funds going is enough, and before the war the analysis of a commu-

nity for fund raising indicated that you could come back about once every 20 years.

Now, in California the schools are not doing that. As you know, Stanford has just raised a large sum of money. In 7 or 8 years it is going back for almost an equal amount: $24 million. The people who come into our State are not devoid of wealth, but most of them have strings in the East. In fact, if I could do so I would put up a barrier to the deans and presidents of other universities who come to California to look up their alumni and their old friends and get contributions from them which they bring back here. I can't, of course, blame them, but we would like to know who those people are and tap them for our support in California.

Mr. YOUNGER. There is one thing that hasn't been covered yet which is the grants to a college to enlarge. If you build more buildings you have more students and you increase the cost. I am particularly referring to private schools, not those supported by taxation.

In making a grant of that kind do you think there ought to be some proof of the ability of the school to operate and maintain itself on an expanded basis before the new building grants are made?

Dr. WARREN. I think, sir, that that will be taken under very serious consideration by the trustees of the institutions. Certainly in the University of California we have to discuss this very completely with the administration and the regents before we can get anything through, and I know from my contacts with the other schools that this is one of their very serious problems—how are they going to get the budget to sustain this operation.

As I pointed out earlier, these research grants help the expansion in the graduate area and the ability of the professors to keep their hand in and grow, but it is not unlikely that if this is to be done on as big a scale as we have talked about, many of the private institutions will only come in if there is some guarantee that they will get some sustaining support, possibly through the device that you have in your scholarship proposal of $1,000 to a quarter of the class, or up to that amount. That is not an awful lot towards the real cost of that student's education, but it is a big help. I think that if you were to examine the total impact of medicine and medical care on the Nation you would find—I saw this several years ago, and I could not find the reference again—that the hospital and medical care organization, dollarwise, was the fourth largest industry, just below the automobile industry, in dollar volume.

Well, the thing that makes all this go is the doctor, and if we can't get the doctors produced, then a lot of this falls down. Along with the doctor, in order to save his energy and time and to spread the work we need to train these others. I forgot to mention the School of Pharmacy in the San Francisco campus of the University of California. We have not any evidence yet that we need another school in the south, the School of Pharmacy, but all my remarks pertain to all parts of this educational system—medicine, dentistry, pharmacy, public health, nursing, and all of the support people. If you want to get the proper balance, and perhaps this can only be done at the State school level, you then need to train all of these people in the same environment together with a pooled faculty and you get the greatest economies and benefits.

Mr. YOUNGER. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Collier?

Mr. COLLIER. Doctor Warren, in discussing the problems of some of these medical students you hit on something that disturbs me and it disturbs me very deeply as one who attended college during the rough years of the depression, and that is this. Where does the student have any degree, and what degree of obligation does he have, to securing an education through at least in part his own efforts to raise part of the cost?

Dr. WARREN. I think that most of these students have a very deep sense of obligation in that respect and most of them expect to work during this period and say so. This has been mentioned before, but I would like to bring another point to view in here. Due to the rise of all of this research we have had to add tremendously to our curriculum, and we have not had time to digest this and simplify it. The result is we have just added to what we already had before the war. In our own case we started out with 4,500 clock hours of instruction in the 4 years. Now, it is 5,500 hours, plus about 8 hours' night study, and the student cannot work during the school term.

Mr. COLLIER. To clarify my question, and I know your point, and I think it is a good point, and I understand that it becomes increasingly difficult for a student to work while he is in the school because of this, I am talking about preparation. I am talking about the summer months when an average student, if he is willing to roll up his sleeves and work at a lumberyard, and any place else, can work, and I am not advising that everyone do, but I am saying it is there, and it was a way of life for years. It did not particularly kill anybody that I know. During the summer months he can make between $650, usually, and up to $900. Maybe I got your statement in the wrong light, but you talked about the student who says, "I am going to get married. I have $2,000 and, therefore, it follows that someone has to take care of me." You talked about the student who spends $2 a day to travel 30 miles. I hope these are unusual. You can practically take a cab 30 miles to get to and from a clinic. I presume there are other means of transportation. I don't know.

Dr. WARREN. There are not.

Mr. COLLIER. I am using these in the generalities. At what point do we expect to have a little personal effort put forth to get an education so that we do not destroy by the very image of any program this concept that many of us lived with, and you probably did yourself, and I am sure you must have in years gone by. In other words, I am frightened that we get to a point where many people will say, "Well, this problem I had of providing an education is entirely that of the Federal Government. If I am broke, and my financial statement will so show when I enter college, and if I am a good student, this then becomes a public responsibility. It is no longer mine particularly, unless I desire that it should be." This is the thing that I think we have to think about. I wonder what your views are.

Dr. WARREN. This is a very good question because it challenges basically the integrity of the individual, doesn't it?

Mr. COLLIER. Yes, sir.

Dr. WARREN. We had a lot of that in the CCC camp situation during the depression. People who got out of that were not inclined to be self-supporting if they did not have to. However, I think I can assure you that this is not the case in the young man or woman today. In my own experience at least, and I think this is not uncommon, these students are independent. They do not want to get in debt. They do not want anybody's largesse. They want to earn their own way. Every one of these students are investigated by our office as to their summer work and we find work for them if they do not get it. We would rather have them work in the laboratory and get paid for it than to have them work in a gasoline station. On the other hand, some will need it physically and we suggest they go into hard labor and work in the forest, or in a ditch, or in a trucking industry, or something like that, where their lack of precise skills does not matter, and they do not have a union problem because the unions are not apt to accept some of these. Some of these have had good jobs all during college and have worked 40 hours a week while they have taken their full college schedule. This is quite an accomplishment and these men have been able to organize their energies and lives so that they can work and work effectively, and they expect to, and a lot of them do not want gifts and would rather have a loan.

Mr. COLLIER. I did not personally mean to give the impression that I do not know that there are many, many students in all areas of college that are willing to work. It is just that I think we have to be cognizant of this area. That is all I have, Mr. Chairman.

The CHAIRMAN. Doctor, thank you very much. We are glad to have your testimony.

Dr. WARREN. Thank you.

The CHAIRMAN. Dr. H. Stanley Bennett?

Off the record.

(Discussion off the record.)

The CHAIRMAN. Dr. Bennett, you may proceed.

STATEMENT OF DR. H. STANLEY BENNETT, DEAN, THE DIVISION OF THE BIOLOGICAL SCIENCES, UNIVERSITY OF CHICAGO

Dr. BENNETT. Yes, Mr. Harris. I have placed the statement before you. I hope you will enter it in the record. I shall be happy to summarize it and be brief in accordance with the well considered words which you just uttered.

The CHAIRMAN. Your statement will be included in the record.

(The statement of Dr. Bennett follows:)

STATEMENT SUBMITTED BY DR. H. STANLEY BENNETT

Mr. Chairman and members of the committee, I am pleased to have this opportunity to lay before you my views as to the significance of H.R. 4999 in relation to the health of our Nation and to its general strength and benefit. I urge its passage, though I believe it might be improved by a few modifications. I speak as the responsible administrator of one of our Nation's great private medical schools—one which has been since its inception amongst the leaders in training physicians of quality and ability; which has, in addition, shouldered much of the expensive burden of training faculty members for the 80-odd medical schools of our Nation and for institutions abroad, and which stands as the Nation's leading medical school with respect to the emphasis it places upon biomedical research and research training. I speak also as a devoted citizen,

deeply concerned for the future of our Nation, and cognizant of the sobering tasks facing our universities and our medical schools as they contemplate their responsibilities to our beloved country.

Before speaking specifically of the bill before us, I wish to portray in broad outline the basic situation facing our universities, including our schools of medicine. Before World War II, most Americans thought of our universities only as places to which young men and women went for a period of a few years in order to get an education and thus to enhance their earning power. A college education was primarily to benefit the student, so people thought. A university does indeed benefit its students, but more important—we realize now that our universities are necessary for our national survival, for our Nation needs the trained minds which only our universities can produce. We support the training of physicians, scientists, engineers, lawyers, teachers, and other learned persons—not to equip a few agreeable young men and women with the means to earn a satisfying livelihood, but to provide our country with the knowledgeable and trained manpower which it needs in order to maintain its health, its economy, its diplomacy, its government, its armed strength, and its free institutions. But our universities provide our Nation with much more. Powerful weapons upon which our Nation's survival now depends were developed not by soldiers or manufacturers, but by university scientists. Now that our Nation has decided to develop the capacity to send manned vehicles to the moon and to embark on manned interplanetary voyages, our country turns once more to our universities as our principal resources for training the men and providing the competence we need for this magnificent enterprise.

Less dramatically, but relentlessly, our country has piled demand upon demand on our universities. Our universities must train more scientists and physicians; must provide more experts in southeast Asian languages and culture; must discover new knowledge of the power of the atom; must teach a host of new students conceived during and since the war; must develop new methods of business analysis; must advise our Nation's strategists as to the best ways of preserving our precious liberties and our personal safeties. And so on and on, these demands, coming from business, from government, and from the patriotic and discerning insight of some of our own university people—for it was university people who first suggested to President Roosevelt that we develop atomic arms and power—these demands have inundated our universities and have overwhelmed their resources. The traditional financing of university activities as they functioned before World War II is entirely inadequate for their role today as our prime reliance for national competence. Today the main commodity which our universities provide for our country is knowledge. Our universities comprise our Nation's storehouses of knowledge, our factories for knowledge, our reprocessing centers for knowledge, and our distribution centers for knowledge. This knowledge is the chief basis of our national competence. It is essential for our survival that our universities fulfill the responsibilities our Nation is placing upon them. Since our universities are essential organs of our Nation, it is necessary that we, as a Nation, insure their continued strength.

The trends which affect our universities broadly also affect our medical schools. Our Nation is growing rapidly in population. More physicians will be needed to care for our people. In addition, much new medical knowledge is needed in order to make each physician more effective. Thus our Nation is demanding of our medical schools more research, more physicians, and more effective physicians. Moreover, our country is asked to assume health and medical responsibilities abroad. We are asked to help initiate or improve medical school is less well-developed lands, to train medical scientists and faculty members for foreign medical schools, and to provide for selected foreign physicians examples of the best of modern American medical and scientific training. Yet our people have supported our medical schools so inadequately that we are unable right now to train all the physicians we need, let alone train an excess for work abroad. We have even been forced to import physicians from other countries in order to provide our own people with enough doctors.

In one respect—with respect to direct support of research in biology and medicine—our Nation has embarked on a realistic program. Through congressional appropriations to the NIH, the NSF, the AEC, and the Armed Forces, through grants from private foundations, through a multitude of private gifts, large and small, given individually or through voluntary agencies such as the American Cancer Society and the American Heart Association, we have been able to

mount a powerful and expanding biochemical research effort which has been effective and which has brought noticeable benefit to our people.

But the full potential of this splendid research effort has not been made available to our people for two reasons: First, because our Nation has not sufficiently supported the teaching of medicine and the training of physicians and medical scientists; and second, because our Nation has not provided adequate funds for construction of new facilities for medical teaching, research, and training, or for modernizing and renovating old structures for the same purposes. As a result of financial stringencies related to teaching, many medical schools have been forced to raise tuition charges to the point where they are a substantial financial impediment to able students of modest means.

H.R. 4999 proposes to deal with these crucial limitations.

The provision for scholarships authorized in this bill will, if enacted into law and implemented by appropriations, be very helpful. The professional schools concerned will then be able to take in superior students of limited means who could not otherwise afford to attend the school. This will help elevate the quality of persons entering the health professions. I urge enactment of this portion of the bill. It promises a good start toward the solution of a serious national problem.

The remainder of the bill deals primarily with matching funds to assist in the construction of health teaching or research facilities. In recommending modification and approval of these portions, I hope you will be able to persuade your distinguished colleagues in the Congress to accomplish the following improvements:

First, to increase the authorization of funds for research facilities construction to at least $100 million a year;

Second, to authorize a variable matching plan whereby each dollar raised for construction of a health teaching or research facility by a local institution could be matched by more than one Federal dollar—perhaps up to three Federal dollars for each non-Federal dollar—the matching formula to be one of administrative regulation and not of legislation;

Third, to increase the authorization of Federal funds for construction of health teaching facilities to not less than $100 million a year;

Fourth, to authorize specifically in legislation that research and training construction funds can be used for the building and remodeling of biomedical libraries on a suitable matching basis, with an authorization to appropriate $10 million a year for biomedical library construction purposes.

Let me illustrate the urgent necessity for this kind of legislation and authorization by citing recent and representative experiences of my own institution, the University of Chicago School of Medicine. This school has a very strong research emphasis and has qualified for considerable research support from Federal, State, and private sources. Yet for years it has been limited primarily by space considerations. Its laboratories and other facilities have long been so crowded with scientists and trainees that expansion of its research and teaching effort could not be achieved without additional construction. Recognizing this limitation, my predecessor as dean, Dr. Lowell T. Coggeshall, initiated an extensive building and modernization program in 1949. Thereafter, up until now, under Dr. Coggeshall's leadership, the University of Chicago has raised and has spent or committed over $21.5 million of private money to finance new construction and major renovation for teaching, research, and training in biology and medicine. The exhibit accompanying this statement summarizes this heroic effort. One can see that this sum of private money of over $21 million has been supplemented by about $4,800,000 of Federal funds, mostly in the health research facilities and Hill-Burton categories, and by an appropriation of $4,500,000 from the Federal Government to the AEC for the construction of the Argonne Cancer Research Hospital, which now stands adjacent to and connected with the other University of Chicago hospitals. These sums, totaling nearly $31 million, have been expended over a 13-year period only for construction and renovation of research, teaching, and training facilities in biology and medicine. The hospital and outpatient facilities were built for and exist solely for clinical research and for teaching in medicine through the demonstration of exemplary medical and dental diagnosis and care.

This prodigious financial effort may seem like much, but is it not enough to provide the buildings the University of Chicago needs in order to fulfill its obligations to the Nation in the fields of biology and medicine. We are currently trying to raise an additional $8 million of construction funds; and beyond that, during

the immediate future, we must program and construct to an additional sum of $54 million for biology and medicine lone. At the rate we have been able to raise money over the past 13 years, it will take us 26 years more—until 1988—before we can raise the funds we need for construction which we are programing now, and for which we have immediate requirements.

Honorable Members of Congress, this illustrates why H.R. 4999 must pass. It will not be enough, but it will help. Our Nation cannot afford to wait until 1988 for the trained persons and new lifesaving knowledge which it expects and deserves from our medical schools. It needs these benefits now.

In order to assist Members of Congress in evaluating these figures and statements, I make the following clarification:

First, the construction program above is just what is necessary to build the laboratories, library, teaching facilities, offices, shops, animal quarters, teaching and research hospital facilities and utility facilities needed at the University of Chicago in order to enable it to keep abreast of the current pact of advances in biology and medicine and to maintain its accustomed position among the leading institutions of the country. It will enable the University of Chicago to do its research, to train about 75 new physicians a year, and to provide research training for about 300 graduate students and for about an equal number of postdoctoral fellows and trainees at any one time. It will enable the University of Chicago to replace obsolete and inadequate teaching and research facilities and libraries and to build new facilities for biophysics, molecular biology, genetics, biomathematics (including centers for computers and statistics), quantum biology, theoretical biology, bioinstrumentation, clinical research, and the like. The figure is realistic, functional, and urgently practical. It is not padded. It is not luxurious or lush or lavish or excessive. It is what is needed.

Second, the order of magnitude of need at the University of Chicago is not unique among our medical schools. I know of a number of other medical schools which face similar requirements. In this respect, the University of Chicago is more typical than exceptional.

Third, the prodigious and partially successful financial effort for construction of the University of Chicago in biology and medicine does not stand alone.

Other medical schools have likewise been exerting themselves with similar results, as is evidenced by much new construction and renovation at State and private schools alike. But I know of no medical school which has been able to raise all the funds it needs.

Fourth, and most important, the University of Chicago and other private and public medical schools cannot afford to put large sums of non-Federal money into construction without at the same time building up endowment or other resources for faculty salaries and concurrent expenses. Even if Chicago, for example, could, during the next few years, raise from private sources a sum equal to the $60-odd million it needs for construction, it could not wisely use this all for building without an appropriate increase in endowment. Chicago already has run into a deficit here, as in order to fulfill its buildng needs in biology and medicine during the last 13 years it has borrowed against endowment income and has even committed a few millions of precious endowment capital. A private university cannot afford to put all its new funds into buildings. Yet our construction needs are so great that these alone can more than preempt all the new private money we can reasonably expect to get, even with prodigious effort.

Honorable gentlemen, I have presented you with some features of the situation facing the University of Chicago as a representative private American medical school. Our country is demanding much of our medical schools and will require much more. We are doing our strenuous utmost—and it is a very effective utmost—to create the facilities needed so we can deliver what our country expects of us. Our country benefits from our achievements in research and from the skill and knowledge of the men we train. But we are not raising and cannot raise private funds fast enough to enable us to build at the required rate. Our country calls on us to provide the knowledge and men needed for our Nation's health. We call on our country to make it possible for us to fulfill our country's expectations and needs. The passage of H.R. 4999 can contribute significantly to this end.

Thank you, honorable Members of Congress, for your courteous attention.

EXHIBIT

Expenditures and commitments for new construction and major renovations for teaching and research in biology and medicine at the University of Chicago, 1949–62

	Source of funds		Total	Year completed
	Federal Government	Private		
New construction:				
Goldblatt Hospital and Laboratories	$690,000	$1,573,607	$2,263,607	1950
Gilman-Smith Hospital and Laboratories	1,175,000	3,114,915	4,289,915	1953
Outpatient building	188,700	1,813,028	2,001,728	1961
Chronic Disease Hospital and Laboratories	357,647	2,592,353	2,950,000	1961
Resident-intern building		1,120,156	1,120,156	1959
Children's Hospital		2,500,000	2,500,000	1963
Armour Clinical Research Bldg	1,128,409	1,835,605	2,964,014	1963
Animal behavior laboratory	115,000	50,905	165,905	1961
Botany controlled-environment laboratory	189,000	55,000	244,000	1962
Research Institute (biology wing)		1,733,000	1,733,000	1950
Subtotal	3,843,756	16,388,569	20,232,325	
New construction (university affiliated):				
Argonne Cancer Research Hospital and Laboratories (built by AEC, operated by University of California)	4,500,000		4,500,000	1951
LaRabida Institute Research Building	192,000	558,000	750,000	1959
Subtotal	4,692,000	558,000	5,250,000	
Total, new construction	8,535,756	16,946,569	25,482,325	
Major renovations:				
Supporting sciences	781,175	1,703,727	2,484,902	
Hospitals and clinics		2,952,304	2,952,304	
Total, renovations	781,175	4,656,031	5,437,206	
Total, new construction and renovations	9,316,931	21,602,600	30,919,531	
Funds currently being raised for necessary new construction:				
Molecular biology building		2,500,000	2,500,000	
Central animal quarters (RC-314)	(750,000)	750,000	750,000	
Pediatrics research facilities	2,500,000	2,500,000	5,000,000	
Total	2,500,000	5,750,000	8,250,000	
Additional funds required for new construction and for modernization of existing educational facilities (from all sources)			54,000,000	

Categorical exhibit of expenditures for construction and major renovations for teaching and research in biology and medicine at the University of Chicago, 1949–62

Teaching facilities	$587,137
Research facilities	13,112,201
Teaching and research hospitals (does not include student classrooms, laboratories, and equipment)	15,611,023
Other (resident-intern housing)	1,609,170
Total	30,919,531

COMMENT ON EXHIBIT

Particularly noteworthy is the low percentage of Government funds used—30 percent of total expenditures were from Government agencies, or, excluding Argonne Cancer Research Hospital, less than 16 percent. All of the hospitals constructed in this period—Goldblatt, Gilman-Smith, Chronic Disease, and Children's Hospital (in process and included in this report)—include research laboratories and classrooms. Moreover, all the patient-care areas in these hospitals exist for the purpose of teaching and research.

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The amount of endowment used for the building program has not been determined, but I estimate that close to $7 million has been expended, plus several million more in endowment income which was "borrowed" until pledges were paid. The Goldblatt Hospital, for instance, still has not had all pledges paid and Worchester endowment money was needed to complete the financing.

Modernization and expansion of teaching facilities (including libraries, which the division has not attempted to finance previously), has not kept pace with the expansion of research facilities. Such funds are among the most difficult to get in the large amount necessary.

Dr. BENNETT. Among the problems with which this bill deals, and on which I wish to speak, are three. First, why is the topic of Federal support of construction and of Federal support for scholarships one which is worthy of the attention of Congress? Second, why should these be scholarships and not loans? And, third, have the universities done their part in the problems which face our Nation?

This bill implies that adequate funds for construction of facilities for medical and dental teaching and research constitute a Federal problem. I believe this position is sound. We are well aware of the fact that the health of our Nation is the problem of all of us. We realize that medical and biological research, producing new knowledge, make our physicians more effective and greatly improve their power to aid their patients. We have been willing to apportion substantial funds to strengthen the biomedical research efforts of our Nation. Our medical schools and schools of dentistry and osteopathy find themselves faced with the necessity of gearing their activities to the stepped-up pace of our population expansion and to the stepped-up pace of the acquisition of new medical knowledge. The results of new research have to be taught to physicians if they are to be used for the benefit of the peaple. Thus the provision in this bill to provide for teaching facilities is appropriate. It will benefit the Nation's health by improving our Nation's ability to make the new knowledge resulting from research available to the people through the doctors who will be taught this new knowledge.

We have been used to thinking of our universities and our medical schools as institutions primarily designed to benefit the student who attends them. During the war and subsequently, we have learned that we must turn to our universities for much essential knowledge. We now find our universities pressed by our Nation to turn out many more doctors, more scientists, more engineers, more linguists, to product much more research, to develop computers, to develop new methods for developing our country, to develop new weapons, to develop new knowledge of cancer and heart diseases. We find that the demands which our country is placing upon our universities are outstripping their customary financial resources. Just as our country turns to our universities, including our medical schools, and asks them to help our country meet the challenges which face our Nation, so our universities find themselves turning to our country and saying, please help us provide what our country needs in order to meet these challenges. This in broad outline is the basic reason why universities, including medical schools, find themselves coming to the Federal Government for help. Our Nation depends on the continued health of our universities and our medical schools. Therefore, it is appropriate that our Nation insure the continuing health of these vital institutions.

As far as scholarships are concerned, so much has been said in this connection that I shall add only one point which I have not heard

uttered in this chamber, though possibly it has been mentioned at hearings which I was not attending. I have been in medical education for a good many years and have often observed that if a student approaches the end of his medical school or his hospital training under a load of debt, he feels forced frequently to cut short his training. Then he cuts himself loose from opportunities to enrich his background in order to enter practice at an earlier stage than he would otherwise. He then practices as a doctor less well equipped with knowledge than would be the case had he continued his education, his hospital training, or his special fellowship training somewhat longer. I believe that as a nation we pay a price in the quality and the duration of training for some of our doctors because of the debt factor. I believe that scholarships would reduce this particular cost to the quality of medical care which our population receives.

I might illustrate by citing my own case, since Mr. Collier has raised the point of individuals assuming responsibility for the financial burden of their own training. I came from a missionary family with four children, all of whom went through college. I went on through medical school. I did work for my expenses in college and in medical school, as you have indicated, Mr. Collier. But had I faced a load of debt in addition, it would have been a very serious handicap to me. I wished to go into teaching and research in medical schools. This is a low-paying branch of medicine. After graduation I had many years on a low salary. Before these were completed I entered the armed services as a young officer in the Navy, I went to the South Pacific and served with the Marines. This delayed very considerably my opportunity to earn a satisfactory living on which to support my family and educate my children. Having continued in the teaching area, my income has not been as large as that of many of my classmates who went into practice. It would have been very disadvantageous for me and for others in my position to have been faced with a load of debt in addition. I am grateful that there were scholarship funds available at my medical school to help me go through this period. I believe that there are others who could have benefited likewise from scholarships. Moreover, even if one does work during the summer and put in a strenuous time earning $650 or $1,000 or more, a sum which able students are able to earn in a summer, this is not sufficient to meet the cost of a year's medical education. There remain additional sums which are necessary if the student is to meet the $1,500 tuition, for example, which some schools charge and the $1,000-odd living expenses which may be imposed upon their students. Even if students do work to earn some expense and even if they get the scholarships provided in this bill, this will not suffice to meet all their expenses.

Furthermore, because of the press of the increased pace of medical studies we must do all we can to give our students the time to master the knowledge with which they are confronted. Thus they can become well qualified as physicians. It is worthwhile for many of them to use their spare time in the summer for work, either in the laboratory, in research, or in the lumber yard, as you suggest, but the bulk of their time during their academic year should be available for their studies. Scholarships can be very helpful here.

The last point I want to make, Mr. Chairman, relates to the question which I have sometimes heard. Have our universities done their part? Why should they turn to the Federal Government? Why don't they do it themselves? I would like to present to you the effort which the University of Chicago has expended in its desire to equip itself to meet its responsibilities in relation to the demands which our country is placing upon medical schools broadly.

The University of Chicago School of Medicine is a private school. It has no public tax-derived support, other than the funds which it gets from grants and contracts of the usual type, and other than a small annual appropriation through the Atomic Enegry Commission to support the very special kind of research which goes on in the Argonne Cancer Research Hospital. The great part of the medical school then, is privately financed. Recognizing the need for additional buildings for research and for improvement in teaching after the war, my predecessor as dean, Dr. Coggeshall, as can be noted from the exhibit at the end of my statement, led the University of Chicago School of Medicine to raise more than $21½ million in private money since 1949 for new construction. This has been supplemented by public money to the extent of a little over $9 million, making a total of $31 million in construction for new research and teaching, hospital, and laboratory facilities. This does not suffice to meet our needs. Just as Dr. Warren has been able to present you with the continuing needs of the University of California at Los Angeles, so I too can, in a similar manner, project our needs for the next few years. We have immediate need for construction funds alone totaling somewhere in the neighborhood of $54 million, in addition to construction programed at present somewhat in excess of $8 million.

These funds are entirely apart from funds for endowment and for ongoing maintenance and operation. The figures represent the magnitude of the financial job facing our private and public medical institutions as they address themselves to the tasks which the Nation places on them. This task is to provide our Nation with knowledge in medicine and biology and with people trained in this knowledge.

If you look at the last page of this exhibit you will notice that of this sum of $31 million only a little less than $600,000 has been available for construction for teaching purposes. This emphasizes the virtues of the provision in the bill H.R. 4999 which allows Federal matching funds for teaching facilities. With matching funds for teaching facilities, we shall be in a better position to build up our capacity to teach students at the University of Chicago and at other medical schools throughout the country.

I shan't burden you further, Mr. Chairman, and honorable members of the committee, with the details of this report. You can follow it at your leisure. I make myself available for your questions.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. No questions.

The CHAIRMAN. Mr. Collier?

Mr. COLLIER. One statement, Doctor. I trust you did not conclude that I had the remotest idea that one could send himself through school by working in the summer. As one who has a son and daughter in a

college and a university, I know of course that this is completely impossible.

Dr. BENNETT. Yes.

The CHAIRMAN. Doctor, thank you very much.

Your statement will be included in the record. I have had occasion to look over it and it is a very good explanation of the needs of your own institution.

Dr. BENNETT. I think this is a representative need, sir. I have chosen this as an example, which is not atypical.

The CHAIRMAN. Thank you very much.

Dr. BENNETT. Thank you.

The CHAIRMAN. Prof. Herman Somers?

I understand Dr. Benedict J. Duffy, Jr., is appearing with Professor Somers.

STATEMENTS OF PROF. HERMAN M. SOMERS, CHAIRMAN, DEPARTMENT OF POLITICAL SCIENCE, HAVERFORD COLLEGE, HAVERFORD, PA.; AND DR. BENEDICT J. DUFFY, JR., PROFESSOR OF PREVENTIVE MEDICINE, SETON HALL COLLEGE OF MEDICINE, JERSEY CITY, N.J.

Mr. SOMERS. Mr. Chairman, honorable members, I am Herman Somers, professor at Haverford College, Pa. My colleague with me is Dr. Benedict Duffy, Jr., who is a practicing physician and professor of preventive medicine at Seton Hall College, Jersey City. We are here representing the Independent Committee for Medical Development. We have submitted a very brief statement which we hope will appear in the record.

The CHAIRMAN. It will be included in the record, Doctor, at this point.

(The statement referred to follows:)

STATEMENT OF THE INDEPENDENT COMMITTEE FOR MEDICAL DEVELOPMENT

INTRODUCTION

The Independent Committee for Medical Development is an outgrowth of the national symposium on "The Health Care Issues of the 1960's" held in New York City October 2, 3, and 4, 1961, under the sponsorship of Group Health Insurance, Inc., a nonprofit organization. A group of participants in that meeting agreed on the value of creating a continuing committee of interested private individuals concerned with the improvement of our health care system. Besides the spokesmen of ICMD noted above, members includes Dr. Martin M. Cherkasky, director, Montefiore Hospital; Mr. Arthur H. Harlow, Jr., president, Group Health Insurance, Inc.; Mr. Jerome Pollack, program consultant, Social Security Department, UAW; Dr. Caldwell B. Esselstyn, director, Rip Van Winkle Clinic; Mr. Alphonse M. Wilson, assistant vice president, Liberty Mutual Insurance Co.; Dr. George A. Silver, chief, Division of Social Medicine, Montefiore Hospital; Mr. Harry Becker, vice president, Blue Cross Association; Dr. Aims C. McGuinness, executive secretary, Committee on Medical Education, the New York Academy of Medicine; Mr. Frank Van Dyke, associate professor of administrative medicine, School of Public Health and Administrative Medicine, Columbia University; Mr. Winslow Carlton, chairman of the board, Group Health Insurance, Inc.; and Mr. Edward T. Chase, consultant and writer.

STATEMENT

One of the vital issues that will engage Congress in the weeks ahead is the matter of alleviating our increasingly critical shortage of doctors. Under consideration will be H.R. 4999 authorizing $75 million annually over a 10-year period for new medical schools, scholarships for medical students and aid to certain research facilities. The intent of this modest legislation is to help correct a deteriorating situation that reflects more adversely on our society than almost any other national shortcoming. The United States is already seriously short of doctors; the situation is rapidly worsening; there is no present prospect whatsoever of improvement without immediate substantial aid. In the crucial matter of providing medical care for its people, the world's richest nation has tolerated an all but incredible condition to develop. In words of Walter Wiggins, M.D., the secretary of the Council on Medical Education and Licensure, American Medical Association, "This is perhaps the first prosperous, great and strong nation since the Roman Empire that has ever needed physicians educated outside its own boundaries to provide necessary medical care for its own populace." While H.R. 4999 cannot by itself do more than modify the problem, we do believe it is imperative that this bill be enacted as the first in a number of steps to resolve the doctor shortage.

The consequences of continuing inaction are serious in the extreme. There is now a consensus that the United States is failing to maintain an adequate ratio of doctors to population. The two most widely known and respected official inquiries, the Bayne-Jones report and the report of the Surgeon General's Consultant Group on Medical Education, show that some 11,000 medical school graduates are required annually to maintain the present ratio of 133 doctors per 100,000 of population. We are turning out only about 7,300 graduates annually. These reports and other official studies agree that to increase the admissions to our medical schools by the roughly 50 percent required to maintain present ratios, the United States must have at least 20 new medical schools by 1970 as well as considerable strengthening and expansion of our present 92 schools. When it is realized that a new school costs from approximately $10 to $25 million and that the funds H.R. 4999 is to provide annually for construction of medical schools and schools of public health come to $45 million, it is clear we are talking about a minimal program.

What does the worsening doctor shortage mean for the individual? It means an exacerbation of many of the shortcomings in medical service that the public suffers from and resents in our medical care system as it is presently organized. There will be needless deaths and needless suffering; there will be fewer doctors for emergency house and night calls; immediate access to emergency service generally will be increasingly spotty; patients will wait longer to see doctors, will be subjected to more hurried examinations, and receive less than optimum care; hurried diagnoses will result in more errors; the discrepancy between available hospital house staffs and increased numbers of hospital beds will increase; patient supervision in the hospital will deteriorate; the difference between the quality of care given the well to do and that given most of the population will be accentuated. All these items have a bearing not on peripheral matters but on matters of life and death. And this is a kinetic, not a static situation, a situation bound to get worse.

What are the prospects for reform? Candor must acknowledge they are slim indeed, despite the seriousness of the matter, and, oddly, despite the unanimity of opinion on the facts. If this seems passing strange, which indeed it is, one must recognize that it is not an easy matter to rally the American public to concern themselves with what seems to be an abstract problem because it seems to lie somewhere in the future. While the need for Government assistance for physical construction of facilities is generally accepted, there has been resistance to acknowledging the equally essential need for outright scholarship grants for students and direct aid to medical teachers. The argument repeatedly has been invoked that new schools aren't any good without teachers and that you can't get the teachers.

However, the facts suggest otherwise. Recent studies show that in the past decade the number of preclinical teachers has been doubled and the number of full-time teachers in the clinical field almost quadrupled. If money is available it will not be hard to keep new graduates in teaching. Every teacher in a medical school today and every attending physician in an affiliated hospital knows dozens of young men finishing their training who would prefer work in the hospital or

medical school to going into immediate practice. Again, there is compelling evidence that the availability of large scholarships (medical education is notoriously costly) will quickly step up the quantity and quality of medical students. In addition, the public and the Congress must appreciate that direct subsidy of operations is essential for many of our medical schools. The precedents for such Government support of education in other fields are many.

It is true, of course, that much can be done to modify the doctor shortage through reorganization of present practices. The regional planning of hospitals on a metropolitan areawide basis, more prepayment coverage of ambulatory and home services, and the development of group practice are steps that could prove helpful.

But the essential step is to create the programs and the necessary financing for producing more doctors. This is a matter that cannot wait. It is a cause that deserves fervent, widespread, public support. An important initial step is the passage of H.R. 4999.

Mr. SOMERS. Thank you, sir. I will be equally brief in making a few remarks about it. I think I should point out that the independent committee is made up of individuals in their private capacities who share a concern and a considerable degree of professional experience in various phases of the medical care field.

We have joined together to see what we can do to help the medical problem. The committee meets regularly for intensive discussion of medical care. The committee includes men in hospital administration, physicians, men in various sectors of the health insurance business, medical teachers, and administrators, writers, and others who are involved in medical care problems. These people do not agree on everything in medical care. We are trying to find what it is that people of good will and knowledge concerned with the Nation's health problems can agree upon which would be of service. This very problem that you are dealing with was the first one on which we could get absolutely unanimous support without qualification from all of these people from different professional backgrounds and long experience with medical care problems.

We all have personally endorsed the statement that has been submitted to you in support of H.R. 4999. I do not believe I need to repeat the content of the formal statement. Some of the things in our statement have already been said by people who have preceded me. I do wish to add that it is the view of our group that the provisions of the bill are, in relationship to the magnitude of the problem, modest. It is a valuable and useful beginning, but we feel that actually the problem and the need are very much larger than the bill provides for. It is a conservative beginning by any measure.

I would also like to make one or two comments which arise from my having listened to earlier testimony today, perhaps to help clarify one or two points. It has been mentioned by one of the Congressmen—I believe it was Mr. Nelsen—that other sciences and engineering, are also appealing for more money for scholarships. He referred to the President's recent statement.

I think this is actually a strong support for this bill. We have a problem in this country of enlarging the entire reservoir of scientific and technical personnel, or we will be in grave difficulty. We are not getting either the quantity or the quality of manpower we need because we have been confining, particularly in the medical field, access to the profession largely to middle and upper class people. Some 40 percent of people who go to medical school come from the top 8 percent of our income groups. The financial barrier is too great. I am not

here discussing the question of the fairness to the omitted individuals. I am concerned that unless the Nation opens up access to all the sciences and technical arts within the next few years, to as large a portion of the population as possible with potential talent, by removing the financial barriers and increasing educational facilities, we will not only be in difficulty in medicine; we will be in difficulty in the sciences on which medicine also depends, chemistry, biochemistry, et cetera. It is correct, there is a competition among these fields for students but we must enlarge the arena of competition. We have to remember at the moment that medical students are worse off in the competition for scholarships and other forms of support.

A second point that was made earlier by one of the honorable members, related to the constancy in the ratio of doctors to population over the past couple of decades. This is true, but it is easily predictable that it will not remain true for the next 20 years, since growth of population is a relatively predictable phenomenon, and we also know about the plans and capacities of our medical schools. The data has already been introduced in your record.

I wish to add that the ratio of doctors to population alone is a rather misleading figure, because it includes all living physicians. The figure includes retired physicians, physicians in research, physicians who are in teaching, physicians who work for Government, and others who are not treating patients. Our data show that the proportion of doctors not in private practice has increased from 10 percent of the profession in 1931 to about 27 percent by 1957. This is not saying the work they do is less valuable. It is different research, teaching, et cetra. To add to that picture, 30 years ago 72 percent of the physicians in private practice were general practitioners. You could go to them directly. This group by 1957 had been reduced one-half, to only 36 percent.

In short, the total number of living physicians does not give you a picture of the doctors who are really available to the population. If you add to that the fact that people are using and need more medical services than ever before, that the meaning of our population data is also changing, I think the constancy of the doctor-patient ratio is misleading. It is true that the individual doctor's productivity has also gone up very rapidly, that is to say, each doctor sees more patients than in the past, but this has been more than counteracted by the factors I have mentioned.

As you know, medical care is a field with enormous controversies and disagreement, but I know of nothing in the field that has as much agreement, almost unanimity, than the fact that we need more physicians, and I believe it is also clear there is just no way of getting them in sufficient numbers without Federal aid.

Thank you, sir.

The CHAIRMAN. Dr. Duffy, do you have anything further?

Dr. DUFFY. A very brief comment, Mr. Harris. It is my understanding from sitting here this morning that the American Medical Association has not taken a position upon this question of scholarships and loans. I think that the great majority of practicing and teaching physicians would take a position, were they given the opportunity, and I think they would be in favor of Federal scholarships on a parity with the other graduate sciences.

The CHAIRMAN. Thank you very much.
We are glad to have your statement.
Dr. DUFFY. Thank you, sir.
Mr. SOMERS. Thank you.
The CHAIRMAN. Dr. Robert Kroepsch?
Dr. Kroepsch, you may identify yourself and proceed.

STATEMENT OF ROBERT H. KROEPSCH, EXECUTIVE DIRECTOR, WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION, FLEMING LAW BUILDING, BOULDER, COLO.

Dr. KROEPSCH. Mr. Chairman, and members of the committee, I am Robert H. Kroepsch, executive director of the Western Interstate Commission for Higher Education. I am here today under specific authorization of the 12-man executive committee of the commission.

WICHE, which is the short title for the commission, is a public interstate compact agency of the 13 Western States. The 39 commissioners are appointed by the 13 Western Governors and report directly to them. Their names are attached to the statement from which I am reading. It is the task of our small staff in Boulder, Colo. to carry out the basic responsibility of the commission which is to improve and increase higher educational opportunities for the young people of the West through interstate cooperation.

Since its founding in 1953, the commission has been deeply involved in finding solutions to the West's increasingly critical professional manpower problems. Our staff has been specifically concerned with ascertaining the health manpower needs of the Western States and with planning programs for meeting these needs. Two studies conducted by the Commission are particularly germane to the matter before this committee. One is entitled "The West's Medical Manpower Needs," a copy of which I hold in my hand, and the other is "Dental Manpower Requirement in the West." Copies of these two studies are available for the committee's files. The findings of the medical study in particular have provided essential data for Western States seeking ways of meeting their medical education needs.

In view of the findings of these studies and on the basis of my participation in efforts to find educational answers to medical and dental manpower shortages both in New England and in the West, I believe that we are facing a shortage of health education facilities which will take on the character of a national health hazard unless immediate steps are taken to provide the needed facilities.

Here are some highlights from our studies of the West's medical and dental manpower needs. I think that very implication is here.

1. The West has 14 percent of the Nation's population, but its medical schools educate only 9 percent of the Nation's doctors. This means that Western States depend heavily on the migration of physicians from other parts of the country. Hence, westerners have a dual concern over the outcome of this hearing. Not only must we strive to produce our fair share of the Nation's physicians, but until we are able to do so, we shall be heavily dependent on medical education in the rest of the States. We know, perhaps as well as any region, that education for the health professions is a national and not a strictly regional or State problem.

2. Eleven of the thirteen Western States are below the national average of physicians per 100,000 population. And these 11 States are far below the national average. Eight of the eleven do not, at present, have any medical school within their borders. You can see that the western region indeed had its work cut out for it in the years ahead if it is to provide enough medical education opportunities for its young people.

3. The West does not have a sufficient number of places in its nine medical schools to educate all qualified applicants from the West. Perhaps the statement should be revised to refer to 10 medical schools since the shiftover of the California College of Medicine.

At present more than half of the students from Western States without schools leave the region for their education. As enrollment pressures increase, western students will find it more difficult to gain admission to nonwestern medical schools. Unless additional medical school places are created in the West, many students will simply have no place to go.

4. Reported plans for medical and dental school expansion will not be sufficient to meet the needs of the West. If the West continues to educate 9 percent of the total number of doctors, it will need about 170 additional entering places by 1975 when the West will have 20 percent of the total U.S. population.

To supply 20 percent of the yearly total of the 8,700 new doctors needed for the Nation as recommended by the Surgeon General, would mean, in the West, immediate plans for over a thousand more first-year places—the equivalent of 10 or 11 average-sized medical schools. So great an expansion can probably not be expected. Up to 500 more places within the next few years would be more obtainable though minimum goal. If Federal stimulatory funds are available, the West will have a chance of achieving its minimum goal and may even aspire to train its proportionate share of the national supply of physicians and dentists.

To summarize, an immediate and substantial expansion of medical education and research facilities is essential if the West is to (*a*) maintain current levels of medical manpower while keeping pace with its rapid population growth, (*b*) provide its qualified students with the opportunity for medical education, (*c*) provide faculty necessary to educate increased numbers of medical students, and (*d*) safeguard high standards of medical education and research.

The problem of providing sufficient dental manpower for the West is no less serious than the medical situation. The WICHE study of dental manpower requirements in the West reported that in order to maintain 1955 levels of dental care, the Western States must fill an annual deficit of 1,260 dental school graduates each year between 1960 and 1975. During these years of rapid population growth the present output of dentists will be nowhere near adequate. At present, the West depends heavily upon other parts of the country to meet its dental manpower needs. But as the shortage grows more acute, the West will be able to depend less and less upon other States to provide dentists, and Western students will find it increasingly difficult to gain admission to schools outside the West. The only way the West can hope to obtain an additional 1,200 dentists each year is to expand existing schools and establish several new ones. Most of the new dental

school places will be needed in California, but the Northwest will need 110 more graduates annually. The Rocky Mountain region 111 more and the Southwest 99 more.

Financing these new dental education facilities will present the same kind of problems as does the financing of new medical education facilities. The financial burden on the States will be great—a burden which they can probably not carry adequately without supplementary funds from the Federal Government.

Several of the provisions of H.R. 4999 strike a responsive chord in the West.

1. This is particularly true of the section which would provide stimulatory grants for the construction of medical and dental teaching facilities. Many of the Western States have small populations which are nevertheless growing rapidly. Several of these States also have tax problems growing out of the fact that within their borders are large Federal land holdings. Most such States will be hard put to it to meet the demands which will be placed upon them to provide undergraduate and graduate education to say nothing of medical and dental education. Yet we know that the pressure to build medical and dental schools is mounting.

Only 2 weeks ago four of the eight Western States without medical schools (Idaho, Montana, Nevada, Wyoming) sent representatives to a WICHE-sponsored meeting to discuss ways of meeting their medical education needs. Participants included the official representatives of higher education, the State medical societies, and personal representatives of the four Governors. They agreed to consider all possible ways of meeting their needs including the establishment of a regional school to serve all four States. Copies of a report of this meeting and a roster of participants have been placed on file with the committee. But whether these States decide to go it alone or to unite in building a medical school, they will, in my opinion, need resources beyond those available within their own borders if they are to plan and construct the kind of high quality medical and dental education facilities necessary to maintain high standards of medical care.

2. Because of WICHE's regional interest in higher education, we strongly endorse those sections of H.R. 4999 which recognize the planning functions of regional agencies and which provide for grants to such agencies for planning and determining the need for medical, dental, and public health teaching facilities.

That part of the bill providing for planning grants can be of vital importance in the West. I mentioned that 8 of our 13 States do not at present have a medical school within their borders. Six of the eight are only beginning to plan for such facilities. While I do not personally believe that all six of these States will want to establish medical and dental schools of their own, I am sure that they will need to be involved in planning for schools which will provide places for their qualified young people.

In those States which already have medical schools, the need for planning funds is equally urgent. For example, the State of California is growing so rapidly in population that its existing schools, cannot possibly provide the needed number of medical and dental student places. Additional schools will have to be planned and built.

And on the other side of the coin, since California is a heavy importer of practicing physicians, it is of interest to the people of California that funds are available for other States in the West and in the Nation as a whole so that necessary planning can take place and needed teaching facilities can be constructed.

3. On the matter of scholarships I shall be brief. The need for additional scholarship funds for medical and dental students is nationwide and not confined to any one region. I assume that you have heard or will hear testimony by the Association of American Medical Colleges concerning the small amounts of financial aid available to medical students as compared to graduate students in the sciences. Medicine and dentistry are seriously handicapped by this lack of scholarship funds in the competition for top talent. No nation concerned with the health of its people can ignore this fact. The medical student has to pay twice as much for his education as does a graduate student and at the same time on the average he can look forward to about one-fourth as much financial aid.

Some have argued that physicians should be willing to go into debt, even heavily in debt, for their educations because they will eventually be more than able to pay back their loan obligations. But the promise of a future high income is not very comforting to a new M.D. who must look forward to 4 more years of apprenticeship wages and the heavy expense of setting up practice after that.

But perhaps the most disconcerting result of our failure to provide enough financial aid for medical and dental students is that people from the lower income groups are selected out of these professions; thus the schools are denied access to a valuable reservoir of talent. Federal scholarship funds distributed by and through the medical and dental schools without strings attached can do much to rectify this potentially dangerous situation. Let me just briefly summarize.

Our Nation, and the West in particular, is now facing a shortage of facilities for medical and dental education. This shortage can constitute a national health hazard. In the face of this shortage there is a need for Federal stimulatory grants for the planning and construction of teaching facilities and for scholarships. This bill it seems to me is in concert with the responsibility of the Federal Government to promote the general welfare of the people—in this case by assisting those institutions which are engaged or wish to engage in training medical and dental manpower. This bill should make it possible for the Federal Government to meet its responsibility in this area without exercising undue control over medical and dental schools and without impairing the rights of such schools or the States in which they are located. The WICHE commissioners strongly urge favorable consideration of H.R. 4999.

Mr. Chairman, on behalf of the Western Interstate Commission for Higher Education, I thank you for this opportunity to speak.

(The statement referred to follows:)

STATEMENT BY ROBERT H. KROEPSCH, EXECUTIVE DIRECTOR, WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION

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In view of the findings of these studies and on the basis of my participation in efforts to find educational answers to medical and dental manpower shortages both in New England and in the West, I believe that we are facing a shortage of health education facilities which will take on the character of a national health hazard unless immediate steps are taken to provide the needed facilities.

Here are some highlights from our studies of the West's medical and dental manpower needs:

1. The West has 14 percent of the Nation's population, but its medical schools educate only 9 percent of the Nation's doctors. This means that Western States depend heavily on the migration of physicians from other parts of the country. Hence, westerners have a dual concern over the outcome of this hearing. Not only must we strive to produce our fair share of the Nation's physicians, but until we are able to do so, we shall be heavily dependent on medical education in the rest of the States. We know, perhaps as well as any region, that education for the health professions is a national and not a strictly regional or State problem.

2. Eleven of the thirteen Western States are below the national average of physicians per 100,000 population. And these 11 States are far below the national average. Eight of the eleven do not, at present, have any medical school within their borders. You can see that the Western region, indeed, has its work cut out for it in the years ahead if it is to provide enough medical education opportunities for its young people.

3. The West does not have a sufficient number of places in its nine medical schools to educate all qualified applicants from the West. At present more than half of the students from Western States without schools leave the region for their education. As enrollment pressures increase, Western students will find it more difficult to gain admission to non-Western medical schools. Unless additional medical school places are created in the West, many students will simply have no place to go.

4. Reported plans for medical and dental school expansion will not be sufficient to meet the needs of the West. If the West continues to educate 9 percent of the total number of doctors, it will need about 170 additional entering places by 1975 when the West will have 20 percent of the total U.S. population.

To supply 20 percent of the yearly total of the 8,700 new doctors needed for the Nation as recommended by the Surgeon General, would mean, in the West, immediate plans for over a thousand more first-year places—the equivalent of 10 or 11 average-sized medical schools. So great an expansion can probably not be expected. Up to 500 more places within the next few years would be a more obtainable, though minimum, goal. If Federal stimulatory funds are available, the West will have a chance of achieving its minimum goal and may even aspire to train its proportionate share of the national supply of physicians and dentists.

To summarize, an immediate and substantial expansion of medical education and research facilities is essential if the West is to (*a*) maintain current levels of medical manpower while keeping pace with its rapid population growth, (*b*) provide its qualified students with the opportunity for medical education, (*c*) provide faculty necessary to educate increased numbers of medical students, and (*d*) safeguard high standards of medical education and research.

The problem of providing sufficient dental manpower for the West is no less serious than the medical situation. The WICHE study of dental manpower requirements in the West reported that in order to maintain 1955 levels of

dental care the Western States must fill an annual deficit of 1,260 dental school graduates each year between 1960 and 1975. During these years of rapid population growth the present output of dentists will be nowhere near adequate. At present, the West depends heavily upon other parts of the country to meet its dental manpower needs. But as the shortage grows more acute, the West will be able to depend less and less upon other States to provide dentists, and western students will find it increasingly difficult to gain admission to schools outside the West. The only way the West can hope to obtain an additional 1,200 dentists each year is to expand existing schools and establish several new ones. Most of the new dental school places will be needed in California, but the Northwest will need 110 more graduates annually, the Rocky Mountain region 111 more and the Southwest 99 more.

Financing these new dental education facilities will present the same kinds of problems as does the financing of new medical education facilities. The financial burden on the States will be great—a burden which they can probably not carry adequately without supplementary funds from the Federal Government.

Several of the provisions of H.R. 4999 strike a responsive cord in the West:

1. This is particularly true of the section which would provide stimulatory grants for the construction of medical and dental teaching facilities. Many of the Western States have small populations which are, nevertheless, growing rapidly. Several of these States also have tax problems growing out of the fact that within their borders are large Federal landholdings. Most such States will be hard put to it to meet the demands which will be placed upon them to provide undergraduate and graduate education to say nothing of medical and dental education. Yet we know that the pressure to build medical and dental schools is mounting.

Only 2 weeks ago four of the eight Western States without medical schools (Idaho, Montana, Nevada, Wyoming) sent representatives to a WICHE-sponsored meeting to discuss ways of meeting their medical education needs. Participants included the official representatives of higher education, the State medical societies, and personal representatives of the four Governors. They agreed to consider all possible ways of meeting their needs including the establishment of a regional school to serve all four States. Copies of a report of this meeting and a roster of participants have been placed on file with the committee. But whether these States decide to go it alone or to unite in building a medical school, they will, in my opinion, need resources beyond those available within their own borders if they are to plan and construct the kind of high quality medical and dental education facilities necessary to maintain high standards of medical care.

2. Because of WICHE's regional interest in higher education, we strongly endorse those sections of H.R. 4999 which recognize the planning functions of regional agencies and which provide for grants to such agencies for planning and determining the need for medical, dental and public health teaching facilities.

That part of the bill providing for planning grants can be of vital importance in the West. I mentioned that 8 of our 13 States do not at present have a medical school within their borders. Six of the eight are only beginning to plan for such facilities. While I do not personally believe that all six of these States will want to establish medical and dental schools of their own, I am sure that they will need to be involved in planning for schools which will provide places for their qualified young people.

In those States which already have medical schools, the need for planning funds is equally urgent. For example, the State of California is growing so rapidly in population that its existing schools cannot possibly provide the needed number of medical and dental student places. Additional schools will have to be planned and built. And on the other side of the coin, since California is a heavy importer of practicing physicians, it is of interest to the people of California that funds are available for other States in the West and in the Nation as a whole so that necessary planning can take place and needed teaching facilities can be constructed.

3. On the matter of scholarships I shall be brief. The need for additional scholarship funds for medical and dental students is nationwide and not confined to any one region. I assume that you have heard or will hear testimony by the Association of American Medical Colleges concerning the small amounts of financial aid available to medical students as compared to graduate students in the sciences. Medicine and dentistry are seriously handicapped by this lack

of scholarship funds in the competition for top talent. No nation concerned with the health of its people can ignore this fact. The medical student has to pay twice as much for his education as does a graduate student and at the same time on the average he can look forward to about one-fourth as much financial aid.

Some have argued that physicians should be willing to go into debt—even heavily in debt—for their educations because they will eventually be more than able to pay back their loan obligations. But the promise of a future high income is not very comforting to a new M.D. who must look forward to 4 more years of apprenticeship wages and the heavy expense of setting up practice after that.

But perhaps the most disconcerting result of our failure to provide enough financial aid for medical and dental students is that people from the lower income groups are selected out of these professions; thus the schools are denied access to a valuable reservoir of talent. Federal scholarship funds distributed by and through the medical and dental schools without strings attached can do much to rectify this potentially dangerous situation.

SUMMARY

Our Nation, and the West in particular, is now facing a shortage of facilities for medical and dental education. This shortage can constitute a national health hazard. In the face of this shortage there is a need for Federal stimulatory grants for the planning and construction of teaching facilities and for scholarships. This bill, it seems to me, is in concert with the responsibility of the Federal Government to promote the general welfare of the people—in this case by assisting those institutions which are engaged or wish to engage in training medical and dental manpower. This bill should make it possible for the Federal Government to meet its responsibility in this area without exercising undue control over medical and dental schools and without impairing the rights of such schools or the States in which they are located. The WICHE commissioners strongly urge favorable consideration of H.R. 4999.

Mr. Chairman, on behalf of the commission, I thank you for this opportunity to speak.

WICHE COMMISSIONERS (AS OF DECEMBER 1961)

Alaska:
- Dr. Theo J. Norby, Alaska commissioner of education.
- Dr. William R. Wood, president, University of Alaska.

Arizona:
- Dermont W. Melick,[1] M.D., Phoenix.
- Alexander A. Raisin, Phoenix.
- Dr. Richard A. Harvill, president, University of Arizona.

California:
- Dr. Foster Hall Sherwood,[1] vice chancellor, University of California at Los Angeles.
- Dr. Roy Simpson, State superintendent of public instruction.
- Dr. W. Ballentine Henley, president, California College of Medicine.

Colorado:
- Dr. William E. Morgan,[1] president, Colorado State University.
- Quigg Newton, president, University of Colorado.
- Walter W. Johnson, Pueblo.

Hawaii:
- Dr. Willard Wilson,[1] provost, University of Hawaii.
- Thomas Richert, M.D., Honolulu.
- John J. Uehara, Honolulu.

Idaho:
- Alfred M. Popma,[1] M.D., Boise.
- Dr. D. R. Theophilus, president, University of Idaho.
- Dr. Donald E. Walker, president, Idaho State College.

Montana:
- Dr. Gordon B. Castle,[1] Montana State University.
- Frank L. McPhail, M.D., Great Falls.
- Paul Working, Livingston.

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[1] Member, executive committee.

Nevada:
Fred M. Anderson,[1] M.D., Reno.
Dr. Charles J. Armstrong, president, University of Nevada.
Dr. John Morrison, University of Nevada.
New Mexico:
Dr. Tom L. Popejoy,[1] president, University of New Mexico.
Dr. Roger B. Corbett, president, New Mexico State University.
Dr. Donald C. Moyer, president, Eastern New Mexico University.
Oregon:
Frank J. Van Dyke,[1] Medford.
Mrs. Thomas Scales, Sandy.
Utah:
Dr. Milton R. Merrill,[1] vice president, Utah State University.
Dr. Lorin F. Wheelwright, Salt Lake City.
Dr. Arthur D. Browne, director, Coordinating Council of Higher Education.
Washington:
Dr. C. Clement French,[1] president, Washington State University.
Dr. Charles E. Odegaard, president, University of Washington.
Hon. Gordon Sandison, State senator, Port Angeles.
Wyoming:
Dr. George D. Humphrey,[1] president, University of Wyoming.
Lloyd R. Evans, M.D., Laramie.
Charles H. Welsh, D.D.S., Cheyenne.

[1] Member, executive committee.

The CHAIRMAN. Doctor, your complete statement will be included in the record. The information referred to will be received for the files as it was with the "Health Care for California," which is a report of the Governor's committee on medical aid and health presented by Dr. Warren.

Any questions?

Mr. YOUNGER. Just one. Doctor, in "The West Medical Manpowers Needs" on page 85 you see this ratio of physicians in private practice which has been steadily declining since 1931. If we are going to graduate more doctors and more of them are going into other services other than private practice, how are we going to get more doctors to satisfy the needs of our people out in the country?

Dr. KROEPSCH. That is a very good question which I have not heard satisfactorily answered by anyone to date. My own feeling is that the reduction in the number of general practitioners does not necessarily mean less medical care for people who lives in nonurban areas. It may mean that their town or country may not be immediately covered by a general practitioner, but in terms of transportation, communication, and other facilities at the present time, I think we are increasingly giving better medical service to people, even those who live in remote rural areas.

Mr. YOUNGER. We are talking all the time, Doctor, about 1975; if we are to keep the same ratio of practicing physicians that we now have per 100,000 population, we need more doctors. If the number of doctors that we graduate is going to be less in proportion each year as to the practicing physicians or full-time specialists, you are not going to reach that goal.

Dr. KROEPSCH. This is part of the problem. We may have some problem in semantics here. I suspect that when we are talking about the need for more doctors we are talking about both general practitioners and specialists and not using the word "doctor" simply as being synonymous with general practitioner. At least that is my understanding.

Mr. YOUNGER. That is all, Mr. Chairman.

The CHAIRMAN. Thank you very much, Dr. Kroepsch.

Dr. KROEPSCH. Thank you.

The CHAIRMAN. Dr. Abe Rubin?

STATEMENT OF DR. ABE RUBIN, SECRETARY AND EDITOR OF THE AMERICAN PODIATRY ASSOCIATION; ACCOMPANIED BY LLOYD E. BLAUCH, PH. D., CONSULTANT TO THE APA COUNCIL ON EDUCATION

Dr. RUBIN. I am Abe Rubin, doctor of podiatry and secretary and editor of the American Podiatry Association.

With me is Lloyd E. Blauch, Ph. D., former U.S. Assistant Commissioner for Higher Education, who serves as consultant to our council on education.

May I ask permission that my whole document be inserted in the record and I will try to give some highlights and amplify some of it so that there may be some time for questioning if you so desire.

The CHAIRMAN. Your statement may be included in the record, Doctor, together with the references thereto.

(Prepared statement of Dr. Abe Rubin follows:)

STATEMENT BY DR. ABE RUBIN, SECRETARY AND EDITOR, AMERICAN PODIATRY ASSOCIATION

Mr. Chairman and members of the committee, I am Abe Rubin, a doctor of poditary and secretary and editor of the American Podiatry Association. With me is Lloyd E. Blauch, Ph. D., formerly U.S. Assistant Commissioner for Higher Education, who serves as consultant to our council on education.

The American Podiatry Association is a voluntary, nonprofit federation of 52 component societies, one in each State, the District of Columbia, and the Commonwealth of Puerto Rico. Our membership comprises 68 percent of the 7,600 practicing podiatrists. This August we will celebrate our 50th year of service to the profession and the public.

We support the general intent and purposes of H.R. 4999 (and similar legislation). However, we believe it should be modified to provide comparable assistance for all the professions serving our people's health needs, and especially foot health needs. We hope our presentation will persuade you that, in the best public interest, grants for construction of podiatric teaching facilities and scholarship grants to podiatry schools should be part of the present legislation.

Since we devote our services exclusively to the foot, we recognize that we have a major obligation to society to insure that there shall be an adequate supply of well-trained professional people caring for the Nation's foot health problems. Accordingly, in August 1960, our house of delegates authorized the establishment of the special commission on the status of podiatry education "to examine, from a broad point of view, the profession's educational program and advise on steps necessary to improve this program."

William K. Selden, LL.D., executive secretary of the National Commission on Accrediting, agreed to chair the commission and select the other members. Their report "Podiatry Education in the 1960's, Status and Opportunities" has been received recently. Copies of this report have been provided the members of your committee. Our leadership has, with a very large gulp, accepted the challenges laid down in the commission's 26 recommendations, 11 of which contain 48 related parts. A perusal of the report will establish that podiatry schools face problems parallel to those reported for medical and dental schools by Secretary Ribicoff earlier this week.

At this point I should like to quote one of the commission's recommendations:

"10. It is recommended that attention be focused on the strained financial conditions of the colleges of podiatry and that the following measures be adopted immediately:

"(c) That the American Podiatry Association represent to the appropriate legislative and executive officials of the [Federal] Government the need and social advisability of making financial provisions for podiatry education in ways similar to those made for the other health services.

What are we podiatrists doing to help meet our schools' needs? For one thing, we are here today. Some measures are:

(*a*) We have organized a fund for the advancement of podiatry education. This has stimulated the giving of $106,000 by our members in its first 2 years of operation.

(*b*) We have increased our dues structure to provide $10,000 annually to each of our schools, in the form of equal matching grants for full-time teaching and research salaries.

(*c*) One alumni association raised $35,000 in 1 year and has pledged to raise at least $20,000 annually for the teaching and research salaries.

(*d*) Another alumni group obtained $250,000 from its members to construct a small teaching hospital in conjunction with its school. It is now in operation and they are forging ahead on their second quarter million for a new teaching and research laboratory facility.

(*e*) The American Podiatry Association, by providing materials and guidance to our component societies, has stimulated a greatly increased awareness, interest, and effort in student recruitment and selection programs. However, the high cost to the student for the 4 years of professional schooling following 2 years of baccalaureate work is the same depressing factor it is in medicine, dentistry, and osteopathy.

We have touched on our schools' needs, but it is there a public need for foot health service? A 1951 Public Health Service report,[1] "Physical Status of Men Examined Through Selective Services in World War II," disclosed that twice as many registrants were rejected for foot problems (1.4 percent) as were for dental problems (0.7 percent). In all examined registrants 90.1 per 1,000 had foot defects and 116.1 per 1,000 had dental defects.

These numbers pale when compared with the incidence of foot problems in the rapidly expanding older population. Appendixed to this statement are five abstracts from publications and reports of the 1961 White House Conference on Aging. One short quote seems to be in order here: "The institutionalized or home-care patient, once moving about with pain-free feet, is more easily motivated for total rehabilitation. Eighty-five percent of these older people have foot problems." Dr. E. L. Tarara,[2] podiatrist at Mayo Clinic, in a study made in preparation for the White House Conference, reported that in a survey of 182,491 patients treated in the offices of 228 podiatrists, 27.67 percent were 65 or over (9 percent of the U.S. population is 65 or over). A few podiatrists had as high as 65 percent of their patients in this age bracket.

In a hearing before this committee this past May 3, 1961, on H.R. 4998, Dr. Huntington Williams, city of Baltimore health commissioner and president, U.S. Conference of City Health Officers, said: "I would like to point out in a different direction the need for more adequate facilities to provide health and medical care to elderly persons in vital items that are often overlooked in current programs. I will mention three: eyesight, hearing, and care of the feet in the elderly."

The question might be raised, isn't foot health care and service provided by the medical profession? The American Medical Association says no. In a report of its judicial council,[3] published in April 1939, it says that this field "too often is neglected. General opinion seems to be that podiatry fairly well satisfies a gap in medical care that the [medical] profession has failed to fill." Samuel L. Andelman, M.D., M.P.H.[4], commissioner of health, Chicago Board of Health, says podiatry is "not just filling a gap; actually it is a vacuum."

Podiatry extends, complements, and supplements the physician's service. Because we are licensed to treat independently, we free him for other service. Also it has been our experience that early evidence of many systemic and chronic diseases first manifest themselves in the foot. One of our schools is presently cooperating with the Chronic Disease Section of the Public Health Service to

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[1] Goldstein, Marcus S., "Physical Status of Men Examined Through Selective Service in World War II"; reprint No. 3080, Public Health News, vol. 66, No. 19, May 11, 1951, pp. 587–609.

[2] Tarara, E. L., "Podiatry's Role in the Care of the Aged," Journal of the American Podiatry Association, vol. 50, No. 12, December 1960, pp. 972–974.

[3] Report of the Judicial Council, Journal of the American Medical Association, Apr. 8, 1939, p. 1,384 (abstracted and annotated in Journal of the American Medical Association, special edition, June 7, 1958).

[4] Andelman, S. L., "Public Health and the Aged," Journal of the American Podiatry Association, vol. 50, No. 12, December 1960, pp. 967–969.

determine the incidence of certain previously undiagnosed systemic and chronic diseases present in patients complaining only of foot problems.

Another significant factor was pointed out by Walter C. Alvarez, M.D.,[5] in an editorial in the May 1961 issue of "Geriatrics." He was commenting on the importance of podiatry service to the older patient and related how the podiatry service in a home for the aged kept patients ambulatory who might otherwise be bedridden. "And this is important," he writes, "because in 1950 the cost of a bedridden patient was $4.03 a day while that of an ambulatory patient was only $1.78 a day."

Early in 1960 we desired to obtain some quantitative data,[6] about our services. A survey questionnaire was designed and the replies were collected and tabulated by an IBM subsidiary. Three thousand two hundred and ninety-six (40.19 percent) replies were received. Among others we learned the following facts about podiatrists:

	Percent
Perform some institutional service	64.6
Serve in nursing homes	31.2
Serve homes for the aged	28.8
Serve on a hospital surgical service	19.8
Serve on other hospital service	19.0
Serve some governmental institution	9.3

Obviously, many of our respondents serve more than one institution. From the same survey we learned that, although the average number of office visits per week was 63.27 and that in 1959 the respondents treated an average of 730.03 different patients one or more times, the entire profession could only serve 6 million of our patients.

At present there is 1 podiatrist for every 23,000 persons, a completely inadequate number. Until 10 years ago, the growth of the podiatry population was running ahead of the general population growth. The past 10 years it has been static, and without the impetus that could be given by the legislation under consideration, the ratio will worsen.

In recent years in our five schools (all accredited, private, nonprofit institutions) funds that had been set aside to provide for development, expansion, and rehabilitation of existing facilities have been called on to simply maintain standards. Financial assistance is needed to prevent deterioration. Our schools report that by 1965 they will require $4,787,349 for improvement and rehabilitation of physical facilities. A sixth school is in the planning stage. It is in association with a large metropolitan hospital and presently offers internship, residencies, some graduate training, and refresher courses. It anticipates expanding to include the 4-year professional curriculum of 4,400 hours as soon as financial arrangements can be assured. An amount equivalent to 1 percent of that being considered for scholarship grants would provide each podiatry school the same arrangements proposed for medical, dental, and osteopathic schools. In fact, an amount equivalent to the 1 percent of the construction grants is also suggested for podiatry schools.

The U.S. Civil Service Commission brochures on the Federal Government-wide health insurance plans include the podiatrist with the medical doctor, doctor of osteopathy, and dentist in the definition of physician because all four, and only these four, health professions are licensed to treat our people by medical and surgical and other means. We submit that H.R. 4999 should also recognize this distinction. H.R. 4999 provides support to educational institutions providing training facilities for practitioners for all parts of the human body except the foot. The foot is deserving of the same good health care accorded the other parts of our anatomy.

I should like to present one other item for your consideration. The problem of the continuously and rapidly increasing body of knowledge in the health sciences cannot be solved by adding additional years of training to the already lengthy training required for medical specialization. Some medical schools are now experimenting on shortened programs for exceptional students. Dentis-

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[5] Alvarez, Walter C., "The Value of Foot Care to the Aged" (an editorial), "Geriatrics," vol. 16, May 1961.

[6] Reprint, "Some Quantitative Information About Podiatry-Chiropody," a report of the statistical survey, Council on Professional Information, Statistical Survey Committee, Egerter, B.C., Journal of the American Podiatry Association, vol. 50, No. 10, October 1960, pp. 824–829.

try has and podiatry is demonstrating that competent qualified practitioners can be trained for service in limited fields by complete specialized separate programs. This should be encouraged as it may be possible to do likewise in other areas.

We respectfully suggest that your committee will now wish to modify H.R. 4999 to provide for podiatry institutions, similar and proportionate support being considered for medical, dental, and osteopathic schools. In this way, much more of the public need for more and better foot health can be met.

This statement could have been filed for the record, but we have learned that we have failed to expose ourselves sufficiently and, as a consequence, too few people are familiar with podiatry and its service. It is especially important that we provide you gentlemen who must make decisions with adequate information. We are, therefore, appearing before you to provide you this occasion to question us.

Thank you for the opportunity to come before you and present this information.

WHITE HOUSE CONFERENCE ON AGING, JANUARY 9–12, 1961

ABSTRACTS FROM CONFERENCE PUBLICATIONS AND REPORTS

"*Foot care.*—Older people must be able to move about * * *. There is no question that the feet are a danger point for the aged. To neglect or mistreat them can result in serious setbacks * * *. Hospitals, nursing homes, etc., have found that prophylactic foot care for their aged patients helps to contribute to the well-being of the whole person. Podiatry has known and shown that many patients, with precisely made and fitted footgear and appliances and devices to redistribute weight stresses, will seem to have feet that are almost new. Our geriatric patient, once moving about with pain-free feet, is more easily motivated for total rehabilitation" (from "Background Paper on Health and Medical Care," prepared under direction of Planning Committee, Health and Medical Care, April 1960, pp. 48–49).

An example of many State reports:

"No. 34. It is recommended that nursing homes and geriatric clinics be made aware of the availability of qualified podiatry services in all major cities in Georgia; that podiatry representatives be included with dentistry, medicine, hospital and nursing home administration, and public health representatives in planning for the total health of the older citizens" (from "Report of Recommendations for Georgia," prepared by the Governor's Commission on Aging; August 1960, Atlanta, Ga.).

"The institutionalized or home care patient, once moving about with pain-free feet is more easily motivated for total rehabilitation. * * * 85 percent of older people have foot problems * * *. Since the doctor of podiatry (chiropody) is the only person devoting his professional services solely to the foot and although he does devote considerable professional time to older people, it is necessary for him to devote more time and recruit fellow podiatrists to such service * * *. He should engage in research * * *. Develop improved and more economical footwear and more specific pharmaceuticals for the foot * * *. He should develop educational foot care programs for the older person" (from "Role and Training of Professional Personnel," group VI, sec. 10; B. Health Services, Podiatry).

"* * * 4. Scope and methods of participation: At the national level our committee on aging is stimulating, guiding, and assisting State and local committees. The American Podiatry Association is providing consultation in the development of the White House Conference on Aging program through the consultant in podiatry. At the State and local levels committees and individuals are participating in State and city conferences on aging and public education programs for senior citizen groups" (from "Handbook of National Organizations," Department of Health, Education, and Welfare).

"* * * While no blueprint can be offered at this stage of deliberation, the need for diagnostic facilities, day care centers, mental hygiene outpatient and home services, halfway houses, regional rehabilitation centers as well as new self-care and other services in hospitals has been stressed. Within these structures as well as in independent practice the resources of the dental, optometric, and podiatric professions should be afforded the elderly" (from "Recommendations—Governor's Conference on Aging," State of California).

Dr. RUBIN. In an effort to learn something about our own educational program, its particular defects and what we should do about it we instituted, in the last year, a study and obtained some outside people to determine for us what we should do. Out of this came a document called "Podiatry Education in the 1960's, Status and Opportunities."

Dr. Blauch was asked to be a member of that commission. Sufficient copies of this have been provided for members of the committee. If you do not consider it too voluminous you may wish to include it in the record as well.

I think the point we would like to make first of all is before we can come to you to ask for support we should determine for ourselves what we have done. On page 2 we have listed some of the things we have done in the past few years.

One thing I would like to mention is that our members through their dues, $10 each year, are now contributing toward the support of our school.

I mention also—No. 4—one alumni group has raised $250,000, and is now working on a second quarter million dollars. This group is in California.

We have considered so far our school needs and what we have done up to this moment, but I think an important question is, is there a real need for the foot health service that we perform? Does the public require that service?

I would like to mention that a Public Health Service report published in 1951 disclosed that of all the registrants who were rejected in the World War II, twice as many were rejected for foot problems, 1.4 percent, as were rejected for dental problems, 0.7 percent.

There is some other information along the same line demonstrating that need.

The second question is: Is our service a duplicate of some that is being performed by other people and isn't foot health care and service provided by the medical profession?

The American Medical Association says "No." In a report of its Judicial Council published in April 1939, it says that this field, our field—

> Too often is neglected. General opinion seems to be that podiatry fairly well satisfies a gap in medical care that the (medical) profession has failed to fill.

We also would like to point out that on page 4 are some figures about how our members participate in institutional service. Fully one-third of our practicing podiatrists, one out of every three podiatrists, serve some nursing home or home for the aged.

Almost 10 percent serve in some governmental institution at the State or Federal level. Almost every mental institution has a podiatrist on its staff.

Now, to do all the things that should be done, we certainly don't have enough podiatrists and we are going to have to do something about getting more of them.

Our schools now need almost $5 million just for rehabilitation to keep up their physical plants. They have fallen way down in the last few years. In fact, they have had to limit their—I should not say they have limited but rather the number of spaces they can actually

fill is less than 10 years ago, although these are not completely filled at this time anyway.

There is one other point we should like to make. We believe that the podiatry school should be included in this provision for one major reason. The podiatrist, the M.D., D.O., and dentist are the only four groups licensed to treat our people by medical, surgical, and other means.

We think this, that by being licensed in every one of the States of the United States to treat by medical and surgical means, distinguishes us from other groups. You will note that Dr. Dorman of the AMA Board of Trustees, when the question was asked about optometry, included podiatry.

We respectfully suggest that your committee will wish to modify H.R. 4999 to provide for our podiatry schools and students in the same manner that you may provide for other institutions.

At this time, I would like to answer any questions you might have in regard to this, sir.

The CHAIRMAN. Thank you, Doctor. You say you have five schools of podiatry.

Dr. RUBIN. That is correct. There are five schools and one is in the process of building. It presently presents only graduate study in Philadelphia.

The CHAIRMAN. Will you name those five?

Dr. RUBIN. Lewis School in New York, Ohio School in Cleveland, Illinois College in Chicago, and the Chicago College in Chicago, the California College in San Francisco, and the new college in Philadelphia.

The CHAIRMAN. I believe you said there were 7,600 practicing podiatrists.

Dr. RUBIN. That is correct. Of 8,100 podiatrists around 7,600 are in actual practice.

The CHAIRMAN. How many students do these five schools accommodate?

Dr. RUBIN. They can accommodate around 1,250. They are approximately 60 percent of capacity.

The CHAIRMAN. They can accommodate 1,250?

Dr. RUBIN. That is correct.

The CHAIRMAN. They are about 60 percent of capacity?

Dr. RUBIN. That is correct, sir.

The CHAIRMAN. Then you are getting only about 750 students in each class each year?

Dr. RUBIN. You mean all told?

The CHAIRMAN. Well, if your statement is correct.

Dr. RUBIN. Twelve hundred and fifty. This is all classes, this is not the entrance class.

The CHAIRMAN. How many do you have entering each year?

Dr. RUBIN. I have the figures for the last few years here, sir. In all schools combined this fall there were 147. The year previous, 127.

The CHAIRMAN. How many could you accommodate if you had applicants?

Dr. RUBIN. About 220, sir.

The CHAIRMAN. Two hundred and twenty?

Dr. RUBIN. Yes, sir.

The CHAIRMAN. Then, Doctor, there is no shortage in facilities for the applicants that are available?

Dr. RUBIN. We anticipate there will be in 3 years. We have learned that we have not done sufficient student recruiting and people generally have not really been aware of the existence of our schools and of our service.

One of our schools did fill its incoming class this year. We had a rise of about 15 percent in enrollment this past year.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. I have one question. Are these schools which you refer to, the five, operated for private gain or are they nonprofit?

Dr. RUBIN. They are all nonprofit private schools. They are listed by the Office of Education of the Federal Government in their Directory of Institutions of Higher Education.

Mr. YOUNGER. Those are the only schools that confer a degree of podiatry?

Dr. RUBIN. Yes, sir; that is correct.

The CHAIRMAN. Doctor, thank you very much. We are glad to have your testimony in behalf of your profession.

Dr. Blauch, we are glad to have had you here with him.

Dr. James Howard Means.

STATEMENT OF DR. JAMES HOWARD MEANS, BOSTON, MASS.

Dr. MEANS. Mr. Chairman, members of the committee, I am a physician, now retired, and have spent 40 years of my professional life in full-time teaching and research in clinical medicine.

It seems to be the increasing number of the likes of me that is part of our problem.

I am a member of Group Health Association of America, which organization has asked me to represent it before this committee in support of the bill H.R. 4999. A resolution in support of H.R. 4999 was unanimously adopted at our annual meeting last May and was transmited to the committee in June. I would like to supply this resolution for the record.

The CHAIRMAN. Without objection, the resolution will appear in the record at this point.

(The resolution submitted by Dr. Means follows:)

GROUP HEALTH ASSOCIATION OF AMERICA, INC.

RESOLUTION NO. 3

Whereas to make the benefits of modern medicine available to all Americans requires, in addition to better arrangements in the financing of health care, a substantial increase in the number of professional health personnel, and a significant expansion of community health facilities and services; and

Whereas Federal action is urgently required to bring about these critically needed improvements, since:

1. Existing sources of financial support cannot meet the costs of a construction, expansion, and scholarship program adequate to the Nation's need for more physicians and other health personnel; and

2. Local communities need Federal financial aid to develop better services for the aged and chronically ill, such as organized home care, and other services not now widely available; and

3. The improvement of the abysmal state of currently available nursing home care requires an increase in the funds available through the Hill-Burton program for the construction of high quality nonprofit nursing homes; and

4. The combination of comprehensive prepayment with the group practice of medicine holds great promise for making high quality care more readily available, but the difficulty of financing needed facilities has been a major obstacle in the further development and expansion of such plans; and

Whereas legislation has been introduced in the Congress of the United States to provide for effective Federal action toward these ends: Therefore be it

Resolved, That the Group Health Association of America convey to the members of the Senate Committee on Labor and Public Welfare, and the House Committee on Interstate and Foreign Commerce, and other members of Congress the unanimous belief of its members and affiliates that favorable action is urgently required this year on the following three legislative proposals:

1. S. 1072 and H.R. 4999, Health Professions Educational Assistance Act, to provide grants to medical and dental schools for construction, expansion, cost of education and for scholarships to gifted students in health professions who are in need of Federal assistance; and

2. S. 1071 and H.R. 4998, the Community Health Services and Facilities Act, to provide funds for the construction of nursing homes; grants to State and local governments, and voluntary agencies and institutions to stimulate the development, improvement, and expansion of health services, particularly for the aged and chronically ill; and to provide funds for research and demonstration in the utilization and provision of hospital services; and

S. 1158 and H.R. 5887, the Health Services Facilities Act, to provide long-term, low-interest loans to comprehensive medical care plans for financing of necessary facilities.

Unanimously adopted at the annual meeting of Group Health Association of America in Portland, Oreg., on May 10, 1961.

Group Health Association of America is a voluntary, nonprofit organization representing the health interests of approximately 5 million individuals throughout the United States who are members and administrators of labor-management, labor, cooperative, and community sponsored medical care programs.

Group Health Association of America believes in the development of nonprofit comprehensive prepaid direct services medical care programs with particular emphasis on provision of the services by a balanced team of family physicians, specialists, and technical personnel operating in group practice medical centers. It is motivated by the understanding that only by incorporating the above mechanism in a health program will people obtain modern, scientific, preventive, diagnostic, therapeutic medical services of sustained high quality and integrated in a most efficient manner.

We stress particularly the role of the consumer and advocate control of policy and administrative functions of medical care programs by or in the interest of consumers of health services, just as professional practice and standards should be controlled by qualified professional personnel.

It is in behalf of consumers of health services—our subscribers and the general public—that Group Health Association of America strongly supports H.R. 4999. The financial plight of the medical and dental schools and the growing competition of other scientific and technical fields for students is well known to this committee. It is the impact of these trends on the consumers' ability to secure health care that I wish to emphasize.

Group Health Association of America in its own work of recruiting physicians for medical practice groups has become keenly aware of the growing shortage of doctors. It believes that this situation can be effectively corrected only by an increased rate of production of doctors of medicine in the Nation.

This, in turn, requires greatly expanded educational facilities and support of education itself through scholarship aid of the sort which H.R. 4999 would make possible.

The need for more doctors has been spelled out and documented thoroughly by the Secretary of Health, Education, and Welfare in his statement to this committee on Tuesday last. Group Health Association of America is in close agreement with the Secretary's statement, as needless to say am I, as an individual. Otherwise I would not be here.

I am grateful both for Group Health Association of America and myself for the opportunity to be heard by this committee on this bill.

Mr. Chairman, if I could take one minute I would like to comment on a remark that the Honorable Mr. Younger made a little while ago. I was speaking of the fact that the number of physicians, the number of doctors not in private practice, was increasing and you also asked the question how are we going to get doctors for rural areas. Is that correct, that you asked that question?

Mr. YOUNGER. That was part of my question.

Dr. MEANS. I would like, in that connection, to say that I think what we need to practice in this country, and I have thought this for a long time, is better organization to provide medical care.

We hear a great deal about organized medicine but organized medicine is organized to protect the interests of the doctor. I would like to see more organization to provide good medical care for the benefit of patients. I think the best way to do that is by association of doctors in groups with the proper sprinkling of general practitioners and specialists.

I think that if we had more of that we could make the medical manpower go further because they would all be operating in a more efficient way so that one way of helping the medical manpower is to increase the efficiency of how medical care is provided. I think this is very important and is not stressed very much actually.

Mr. YOUNGER. Doctor, let me intervene. The statistics I am quoting from, gave those doctors not in private practice in the following category: Retired—which is your category—Federal Government, teaching, research, hospital service.

Now all the other doctors are considered to be in either full-time specialty or general practice. It does not give a category there for those that are in Group Health.

Dr. MEANS. No, but they are in practice. They are in practice in partnership.

Mr. YOUNGER. Yet the total number of doctors in full-time specialty and general practice has been decreasing every year.

Dr. MEANS. I know, sir. The point I am trying to make is that these doctors would be more efficient and take care of more patients if they practiced in groups and had a little teamwork rather than solo practice.

Mr. YOUNGER. That is your opinion in advocacy of the Group Health program and that is all right but that does not have anything to do with this program here other than to say that if all the doctors would go into the Group Health program we would not need as many doctors.

Dr. MEANS. That is right.

Mr. YOUNGER. That is all.
The CHAIRMAN. Thank you, Dr. Means.
Dr. MEANS. Thank you very much.
The CHAIRMAN. Dr. Charles W. Bliven.

STATEMENT OF DR. CHARLES W. BLIVEN, AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

Dr. BLIVEN. Thank you, Mr. Chairman for the privilege of appearing before you.

My name is Charles Bliven. I am executive secretary of the American Association of Colleges of Pharmacy. Our association represents 77 schools and colleges of pharmacy and 75 of these are located in 44 States and the District of Columbia and all are nationally accredited.

I appear before you in behalf of this legislation and I ask that as the committee gives consideration to this or similar legislation, that it is our sincere desire to have the schools and colleges of pharmacy included because through such added assistance the pharmaceutical segment of the health profession will be able to maintain and improve our professional service in the years ahead.

I invite your attention to S. 1072, a bill which is identical to the bill under consideration, to which Senator Humphrey has introduced amendments. These amendments would make our schools and colleges of pharmacy eligible for financial aid as is proposed for the schools of medicine, dentistry, and schools of public health.

The American Association of Colleges of Pharmacy supported these amendments in the last session.

To aid in determining the existent and of future needs of the profession, the public Health Service with the cooperation of some 16 pharmaceutical organizations is working toward a professional manpower study. It is asked that the needs of schools and colleges of pharmacy be incorporated into this legislation.

I am going to pick out parts of this in the interest of time.

While many of our schools have good physical facilities and equipment, others must seek funds from outside sources to provide these essentials. We realize that quantity as exemplified by square feet and the number of students is not in itself sufficient to meet our public health responsibilities. Quality of students and staff are equally essential to the education of tomorrow's pharmacists. All of these needs have high priority in the thinking and planning of our college administrators.

There is an increasing need for financial aid to students in order that pharmacy can continue to supply the essential number of well-qualified graduates.

With respect to this legislation which would expand and extend research facility grants, it is our specific request that this legislation be amended for the inclusion of pharmacy by name as we wish to be included by name in the definition of science related to health which is given in Title VII: Health Research Facilities, section 702(4).

To this end I have attached amendments which would achieve this objective. I might add that our schools are now eligible for research

facility grants and are eligible and receiving research grants under the NIH program.

I think our needs in the decade ahead lie in the area of modernization and rehabilitation of existing facilities, not necessarily in the origin of new schools. I feel, too, that one of our great needs is in the area of scholarships, to increase the number of well-qualified applicants to our schools of pharmacy.

These, together with continued aid and under the Research Facilities Act and the research grants program, will help us improve the quality of our students and our staff. An increased number of applicants through scholarships would help us materially in producing the qualified candidates essential for the years ahead.

I shall be happy to attempt to answer any questions that you may have.

The CHAIRMAN. Doctor, your complete statement will be included in the record.

Dr. BLIVEN. I appreciate that, Mr. Chairman.

(Prepared statement of Dr. Charles W. Bliven follows.)

STATEMENT OF DR. CHARLES W. BLIVEN IN BEHALF OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

My name is Charles W. Bliven. I am executive secretary of the American Association of Colleges of Pharmacy and present the statement in this capacity. Before assuming this office I served for 14 years as dean of the School of Pharmacy of the George Washington University, Washington, D.C.

I appear before you in behalf of the membership of the American Association of Colleges of Pharmacy, which consists of 77 schools and colleges of pharmacy. Seventy-five of our member schools are located in forty-four States and the District of Columbia and are nationally accredited. Approximately 1,100 teachers are engaged in the instruction of some 10,800 undergraduate and 950 graduate students enrolled in our schools.

The curriculum leading to the undergraduate professional degree has required 4 years since 1932 and a minimum of 5 years since September 1960. Two of our member schools offer only a 6-year curriculum and two others offer this longer program on an optional basis. In the 5-year program a minimum of 3 years of work in the professional subjects are required in addition to a 2-year basic science program. In the 6-year curriculum at least 4 years are mandatory beyond the 2 years of science.

The objective of the American Association of Colleges of Pharmacy is the promotion of education and research within the member institutions. Our association is a nonprofit organization.

I appear before you in support of H.R. 8774 which would increase opportunities for training certain health science personnel and would amend title VII of the Public Health Service Act.

As the committee gives consideration to this or similar legislation, it is our sincere desire to have the schools and colleges of pharmacy included. Through such added assistance the pharmaceutical segment of the health professions will be able to maintain and improve our professional service in the years ahead.

Your attention is invited to S. 1072, a bill identical with H.R. 8774, to which Senator Humphrey has introduced amendments. These amendments would make our schools and colleges of pharmacy eligible for financial aid as is proposed for schools of medicine, dentistry, and public health.

To aid in determining the existent and future needs of the profession, the Public Health Service, with the cooperation of some 16 pharmaceutical organizations, is working toward a professional manpower study. It is asked that the needs of the schools and colleges of pharmacy be incorporated into H.R. 8774 which is designed to increase the opportunities for training health science personnel.

Our member colleges have the responsibility of graduating an adequate number of pharmacists at both the undergraduate and graduate levels to meet not only the replacement needs of the profession but also the demands of our rapidly

expanding area of the health sciences. A rather constant pharmacist-to-population ratio of 67 to 100,000 has existed from at least 1920 until recently. If this ratio is used in the projection of manpower needs, schools of pharmacy will need to produce annually, during the period 1965–70, twice as many graduates as are currently being graduated; during 1970–75, the average annual number of graduates must be increased by 15 percent over 1965–70 if the ratio is to be maintained.

The 67 to 100,000 ratio based on a population of 180 million would require 120,000 pharmacists; however, the current number is closer to 117,000 providing a pharmacist-to-population ratio of 65 to 100,000.

Approximately 90 percent of our professional personnel are practicing in the community pharmacies throughout the country. The remaining 10 percent are engaged in the many other areas of the profession: in the pharmacies of our hospitals; in the control, research, or product development laboratories of the manufacturing plants; as medical service representatives to the physicians; in our educational programs; in Government; and in the Armed Forces. The schools of pharmacy are making every effort to respond to the demands for personnel from all of these public health areas.

The educational program in pharmacy provides our graduates with an excellent background in the basic sciences as well as in the professional courses. For this reason, allied health fields are utilizing an increasing number of our graduates.

To provide an adequate number of pharmacists for the total profession, our schools and colleges need financial assistance beyond that currently available. While many of our schools have good physical facilities and equipment, others must seek funds from outside sources to provide these essentials.

We realize, however, that quantity as exemplified by square feet and numbers of students is not in itself sufficient to meet our public health responsibilities; quality of students and staff are equally essential to the education of tomorrow's pharmacist. All of these needs have high priority in the thinking and planning of our college administrators.

Too, there is an increasing need for financial aid to students in order that pharmacy can continue to supply the essential number of well-qualified graduates.

In addition to an improved and lengthened undergraduate program, many of our schools have developed excellent graduate programs for the preparation of teachers and research personnel. This is a vital part of the educational program and must be expanded rapidly in the years ahead. An adequate supply of teachers is an important need currently. A recent survey revealed that we need over 100 new teachers for the year starting September 1962. Less than two-thirds of this number will receive the desired training in time to qualify for the positions; and some of these will take work in the research laboratories throughout the country.

H.R. 8774 would expand and extend research facilities grants. It is our specific request that this legislation be amended to provide for the inclusion of pharmacy by name in section 702(4) of the Public Health Service Act; we wish pharmacy to be included by name in the definition of the term "sciences related to health" as given in title VII: Health Research Facilities. To this end I have attached to this statement amendments which would achieve this objective.

Pharmacy is currently eligible for research facility grants. Our member schools and colleges of pharmacy have received grants through 1960 estimated at $2 million. A recent survey of schools of pharmacy indicates that for the period 1963–65, 47 schools will require for new research facilities, remodeling, and for equipment funds in excess of $20 million, based on total cost of construction.

In addition, our member colleges are eligible for research grants from the National Institutes of Health. Approximately 700 research projects were in progress in schools of pharmacy in 1960. During the academic year 1960–61, 45, more than 50 percent, of our schools received research grants from NIH and other Federal sources in the amount of $1,600,000. Research grants totaling an additional $724,000 were obtained from the parent institutions, foundations, and from industry. Total research funds available to our schools in 1960–61 amounted to $2,460,000.

The figures on research facility grants and on research projects indicate the increased interest and activity of pharmacy schools in fundamental and applied

research in our branch of the health sciences. In the 9-year period, 1951–60, the number of projects in pharmacy schools receiving NIH support has increased more than 20 times; the dollar value of the projects has increased more than 30 times.[1]

The administrators of our member colleges are grateful for Federal support in the construction of research facilities and in research projects. It is our earnest request that pharmacy continue to be included in programs relating to the health professions. Through the establishment of a national advisory council on education for the health professions as provided in H.R. 8774 there is ample protection that funds will not be allocated unwisely.

PROPOSED AMENDMENTS TO H.R. 8774 BY THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY, JANUARY 26, 1962

On page 18, strike out lines 3 through 9, and insert in lieu thereof the following:

"SEC. 3. (a) Section 702(4) of the Public Health Service Act is amended by inserting 'pharmacy,' after 'dentistry,'.

"(b) Effective with respect to appropriations for fiscal years beginning after June 30, 1962, section 704 of such Act is amended by striking out '$30,000,000' and inserting in lieu thereof '$50,000,000'. Such section is further amended by striking out 'five succeeding fiscal years' and inserting in lieu thereof 'eight succeeding fiscal years'."

On page 18, line 10, strike out "(b)" and insert in lieu thereof "(c)".

On page 18, line 13, strike out "(c)" and insert in lieu thereof "(d)".

On page 18, line 20, strike out "(d)" and insert in lieu thereof "(e)".

On page 19, line 9, strike out "(e)" and insert in lieu thereof "(f)".

On page 20, line 7, strike out "(f)" and insert in lieu thereof "(g)".

Amend the title so as to read: "A bill to increase the opportunity for training of physicians, dentists, pharmacists, and professional public health personnel, and for other purposes."

The CHAIRMAN. I am glad to have the information which is contained in your statement regarding the colleges of pharmacy, the status of these schools.

Mr. Younger, do you have any questions?

Mr. YOUNGER. I have one question.

Is there any shortage of pharmacists now?

Dr. BLIVEN. I think I would answer that, Mr. Younger, by saying that perhaps it is a matter of distribution at the present time, as we heard earlier this week. We are concerned, however, with the number of replacements. The total number of replacements coming out of our schools, the total number of graduates for replacement, is just a little bit less than those who are leaving the profession but in some areas there is a shortage and in other areas there are more graduates.

Mr. YOUNGER. There is no great group of unemployed pharmacists then?

Dr. BLIVEN. Not to my knowledge, sir.

Mr. YOUNGER. That is all.

The CHAIRMAN. What about attracting new applicants for students to pharmacy?

Dr. BLIVEN. This is one of our problems. We had a large number of applicants right after World War II with the aid of the GI bill. Our number of applicants then dwindled and probably reached a low

[1] Allen, Ernest M., American Journal of Pharmacy, ed. 25, 211 (1961).

point in about 1954 or 1955. I am happy to say that starting in 1959 our student bodies have increased across the country, very slowly, 1.6 percent in 1959 and 8 percent in 1960.

We hope this will continue but we do have a large attrition rate which we do not like—we are not proud of it. This means we need better qualified or more qualified applicants.

The CHAIRMAN. Thank you very much. We are glad to have this information and your contribution for the record.

Dr. BLIVEN. Thank you, sir.

The CHAIRMAN. Mr. Philip F. Jehle.

STATEMENT OF PHILIP F. JEHLE, WASHINGTON REPRESENTATIVE AND ASSOCIATE GENERAL COUNSEL OF THE NATIONAL ASSOCIATION OF RETAIL DRUGGISTS

Mr. JEHLE. Mr. Chairman, with your permission I would like to have my prepared statement inserted in the record at this point as though read.

The CHAIRMAN. It may be included.

Mr. JEHLE. I wish at this time only to emphasize what seems to be an obvious shortcoming or perhaps oversight evidenced in the scope of the bill. I refer to the failure of the measure to provide any means of boosting the output of the Nation's pharmacy schools in contrast to the specific provisions for substantially raising the number of medical, dental, and public school graduates.

Though agreeing that the range of the medical, dental, and public health professions must be augmented, the National Association of Retail Druggists respectfully urges that H.R. 4999 be amended to offer its benefits to all of the health professions, including pharmacy, in which an appreciable personnel shortage is found. Practical justice for American pharmacy would seem to require that the needs of the health professions be met in a comprehensive and nondiscriminatory manner.

I would like to call to your attention, Mr. Chairman, the fact that Mr. Mack of this committee only this afternoon introduced in the House an amended H.R. 4999. I don't know the number of it yet, sir, but the bill has been introduced in the House and I am sure will be referred to this committee for earnest and sympathetic consideration.

In addition, I should like to have inserted at the conclusion of my testimony another table, another statistical table C which gives the manpower data for the year 1961 and for the year 1962 for the pharmaceutical profession. It is a State-by-State breakdown showing, for example, how many pharmacists are in the State of Arkansas, and how many are required every year to replace those who die or leave the State or for one reason or another no longer actively practice pharmacy.

The CHAIRMAN. We will receive table C and go over it and see what part is appropriate to go into the record.

Mr. JEHLE. Thank you very much.

(Following is the table C referred to and prepared by Mr. Jehle:)

TABLE C.—*Manpower data, 1961–62*

	Number of registered pharmacists engaged in practice Jan. 1, 1961[1]	Number of replacements needed annually (3.5 percent)	Potential replacements enrolled in colleges of pharmacy [2]			
			For 1961, senior students (fall of 1960)[3]	For 1962, senior students (fall of 1961)[3]	For 1963, junior students (fall of 1962)[3]	For 1964, sophomore students (fall of 1963)[3]
	(1)	(2)	(3)	(4)	(5)	(6)
Alabama	1,402	49.1	96	152	155	49
Arizona	873	30.5	24	21	43	44
Arkansas	892	31.2	22	28	27	36
California	9,667	338.3	225	193	192	216
Colorado	1,796	62.9	23	9	17	48
Connecticut	2,086	73.0	74	98	91	0
Delaware	209	7.3	0	0	0	0
District of Columbia	900	31.5	69	49	68	4
Florida	3,494	122.3	63	51	108	76
Georgia	2,568	89.9	110	119	116	69
Idaho	467	16.3	32	26	18	52
Illinois	5,948	208.2	90	106	156	62
Indiana	2,986	104.5	137	151	182	35
Iowa	1,557	54.5	90	96	108	40
Kansas	1,347	47.1	29	18	30	39
Kentucky	1,215	42.5	50	21	34	38
Louisiana	2,198	76.9	82	88	101	96
Maine	440	15.4	0	0	0	0
Maryland	1,701	59.5	38	43	61	2
Massachusetts	4,500	157.5	160	138	159	9
Michigan	5,839	204.4	172	161	219	85
Minnesota	1,957	68.5	33	32	34	59
Mississippi	941	32.9	47	52	63	72
Missouri	3,081	107.8	96	100	170	50
Montana	394	13.8	15	18	15	19
Nebraska	980	34.3	14	33	47	50
Nevada	265	9.2	0	0	0	0
New Hampshire	356	12.4	0	0	0	0
New Jersey	3,567	124.8	60	61	90	0
New Mexico	557	19.5	16	23	26	27
New York	14,364	502.7	493	491	600	35
North Carolina	1,659	58.1	48	72	85	33
North Dakota	354	12.4	55	59	85	16
Ohio	5,656	198.0	207	226	280	59
Oklahoma	1,591	55.6	87	82	129	85
Oregon	1,435	50.2	49	46	84	64
Pennsylvania	9,400	329.0	310	348	386	48
Rhode Island	673	23.6	15	21	24	8
South Carolina	1,042	36.5	51	53	79	38
South Dakota	450	15.8	53	47	49	0
Tennessee	2,197	76.9	63	79	100	90
Texas	5,426	189.9	164	200	208	206
Utah	599	21.0	31	38	35	21
Vermont	182	6.4	0	0	0	0
Virginia	1,636	57.3	59	56	74	25
Washington	2,671	93.5	37	44	59	91
West Virginia	612	21.4	20	26	28	8
Wisconsin	2,299	80.5	67	79	99	28
Wyoming	280	9.8	15	28	24	5
Total	116,709	4,084.8	3,691	3,882	4,758	2,137

[1] Census and license data compilation, National Association of Boards of Pharmacy, 1961.
[2] AACP report on enrollments, fall term, 1960.
[3] AACP report on enrollments, fall term, 1961.

The CHAIRMAN. Thank you very much, we are glad to have this information in behalf of the National Association of Retailing Druggists.

Mr. JEHLE. Thank you, Mr. Chairman.

KANSAS STATE UNIVERSITY MAR 12 1962 MANHATTAN, KANSAS

(Prepared statement of Philip F. Jehle follows:)

STATEMENT OF PHILIP F. JEHLE, WASHINGTON REPRESENTATIVE AND ASSOCIATE GENERAL COUNSEL OF THE NATIONAL ASSOCIATION OF RETAIL DRUGGISTS

Mr. Chairman, I appear here this morning in behalf of the National Association of Retail Druggists, a small business association having a nationwide membership of 36,000 family pharmacists. As you know, the NARD speaks for its retail pharmacist members on all national legislative matters affecting their competitive and professional interests.

The NARD is deeply appreciative of this opportunity to testify in support of H.R. 4999 and the perfecting amendments thereto introduced in the House yesterday by Congressman Peter Mack. Accordingly, you may be assured that my testimony on this subject will be brief and to the point. I understand the practical problems involved in scheduling the many witnesses who desire to be heard on this very important measure.

In both principle and purpose, the NARD endorses H.R. 4999, the bill for increasing the opportunities for training of medical, dental, and public health personnel. The Nation's retail pharmacists have no hesitancy in supporting efforts to relieve the serious manpower shortages existing in the related health professions. In fact, such an undertaking deserves and, I am sure, enjoys the support of all American citizens interested in the maintenance of our high health care standards.

While generally supporting H.R. 4999, the NARD wishes to call attention to an obvious shortcoming or, perhaps, oversight evidenced in the scope of the bill. I refer to the failure of the measure to provide any means of boosting the output of the Nation's pharmacy schools, in contrast to its specific provisions for substantially raising the number of medical, dental, and public health graduates. Though agreeing that the ranks of the medical, dental, and public health professions must be augmented, the NARD respectfully urges that H.R. 4999 be amended to offer its benefits to all of the health professions, including pharmacy, in which an appreciable personnel shortage is found. Practical justice for American pharmacy would seem to require that the needs of the health professions be met in a comprehensive and nondiscriminatory manner.

Available statistics reveal that the supply of registered pharmacists has not kept pace with a growing America. In 1930, when there were only 88,000 registered pharmacists, the United States enjoyed a ratio of 69 pharmacists for every 100,000 persons in the population. Today, by comparison, there are only 67 pharmacists per 100,000 persons, although we have about 120,000 registered pharmacists in the country. But an even more serious manpower shortage is disclosed, if only the 116,000 pharmacists currently registered and actively engaged in the practice of pharmacy are considered. The ratio then drops to 64 to 100,000. (See table A.)

These statistics become even more meaningful when it is considered that, some 30 years ago, almost all registered pharmacists were working in retail drugstores, while currently about 10 percent are employed in such related health areas as pharmaceutical research and development, pharmacy education, ethical drug promotion and distribution, hospital pharmacies, and Federal and State public health agencies, including military dispensaries. In other words, the failure to keep the supply of registered pharmacists in line with population growth since 1930 has been aggravated by the fact that at least 10 percent of today's pharmacists are not available for retail pharmacy work. Small wonder, then, that a vexing shortage of pharmacists for prescription counter duty is found to exist in retail drugstores across the country.

At the same time, it should be understood that the registered pharmacists active in the related health fields mentioned do not satisfy the numerical requirements for pharmacists in those areas, either. The demand for pharmacists in such areas far exceeds the available supply. Over the past 30 years, very little preparation of any kind was made to meet what have become the substantial needs for trained pharmacists in such associated fields of interest.

As one informed observed of the pharmaceutical scene has reported "* * * the current shortage of pharmacists seems certain to become even more pronounced in the years ahead. * * * More than 160,000 registered pharmacists will be required 15 years from now to satisfy the needs stemming from continued popu-

lation growth only, assuming that current ratio of availability of pharmacists can be termed adequate. Of this number, an estimated 10,000 will be needed in hospital pharmacies and another 2,000 to meet what are probably the minimum requirements for teaching and research. For the most part, the others will be engaged in retail pharmacy and allied health fields, as is the case today." (See table B.)

In planning to meet the needs for pharmacists in the future, attention must be given also to the rapidly developing trend in retail pharmacy toward the 8-hour day and the 5-day week. Even now, the small retail pharmacist is sorely pressed to provide his customers with professional pharmaceutical services throughout the 14–16 hours of his daily operations. Bear in mind that 40 percent of all drugstores operate with only one pharmacist and another 45 percent are serviced by only two. Once retail pharmacy generally adopts the 40-hour week enjoyed by the other health professions, a substantial increase in the supply of pharmacists will be required. The alternative would be a deterioration in the quality and convenience of pharmaceutical service.

These observations concerning current and future shortages in pharmacy manpower find confirmation, I believe, in the 1959 report of the Surgeon General's Consultant Group on Medical Education, entitled "Physicians for a Growing America." According to the consultant group, "shortages of trained people exist in practically every one of the many professional and technical careers in the health field. Intensive recruitment of young people for these many essential health services, including medicine, is imperative."

The desirability of coupling the problem of medicine with those in the related health professions was recognized by the consultant group. "* * * Physicians cannot carry their load of responsibility without competent and well-trained teammates and associates.

"There is increasing recognition of inter-related responsibility of health workers with a variety of skills and educational preparations. One evidence of this is the development of university-based health centers with closely related schools of medicine, dentistry, nursing, and other health professions.

"* * * In 1900, for every physician in practice there was one other professional health practitioner; today, there are four such persons for every physician."

After outlining our pharmacy manpower requirements, our task is to meet them. To achieve even our minimum goals in the supply of registered pharmacists will require much larger pharmacy school enrollments and graduations. That being the case, pharmacy school facilities will have to be substantially enlarged and teaching staffs correspondingly increased to take care of the additional students to be enrolled, all without reducing the present high quality of pharmaceutical education. For success in this important undertaking, some Federal assistance will be required by the pharmacy schools just as with the medical and dental schools.

In view of these considerations, the NARD feels justified in asking that H.R. 4999 be amended to make our Nation's pharmacy schools eligible for the matching grants program that the bill extends to medical and dental schools. The NARD also asks that H.R. 4999 be amended to make pharmacy students eligible for the scholarship funds that the bill would offer medical, dental, and public health students.

Under legislation of the past, pharmacy schools have participated in other financial grant programs primarily established for medical and dental schools. A good example of such legislation is the Health Research Facilities Act of 1956. Pharmacy schools also receive money grants from the National Institute of Health for health research projects.

The Nation's retail pharmacists ask your sympathetic consideration of Congressman Peter Mack's proposed amendments to H.R. 4999. Adoption of the amendments will be an important step toward relieving the critical manpower shortages existing in American pharmacy.

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TABLE A

States	Population (thousands)	Pharmacists	Ratio of pharmacists to 100,000 population
Alabama	3,267	1,402	42.9
Alaska	226	74	32.7
Arizona	1,302	873	67.0
Arkansas	1,786	892	49.9
California	15,717	9,667	61.5
Colorado	1,754	1,796	102.3
Connecticut	2,535	2,086	82.2
Delaware	446	209	46.8
Florida	4,952	3,494	70.5
Georgia	3,943	2,568	65.1
Hawaii	633	191	30.1
Idaho	667	467	69.9
Illinois	10,081	5,948	59.0
Indiana	4,662	2,986	64.0
Iowa	2,758	1,557	56.4
Kansas	2,179	1,347	61.8
Kentucky	3,038	1,215	39.9
Louisiana	3,257	2,198	67.4
Maine	969	440	45.3
Maryland	3,101	1,701	54.8
Massachusetts	5,149	4,500	87.4
Michigan	7,823	5,839	74.6
Minnesota	3,414	1,957	57.3
Mississippi	2,178	941	43.2
Missouri	4,320	3,081	71.3
Montana	675	354	58.3
Nebraska	1,411	980	69.4
Nevada	285	265	92.8
New Hampshire	607	356	58.6
New Jersey	6,067	3,567	58.7
New Mexico	951	557	58.5
New York	16,782	14,364	85.5
North Carolina	4,556	1,659	36.4
North Dakota	632	354	55.9
Ohio	9,706	5,656	58.2
Oklahoma	2,328	1,591	68.3
Oregon	1,769	1,435	81.1
Pennsylvania	11,319	9,400	83.0
Rhode Island	859	673	78.3
South Carolina	2,383	1,042	43.7
South Dakota	681	450	66.1
Tennessee	3,567	2,197	61.5
Texas	9,580	5,426	56.6
Utah	891	599	67.2
Vermont	390	182	46.6
Virginia	3,967	1,636	41.2
Washington	2,853	2,671	93.6
West Virginia	1,860	612	32.8
Wisconsin	3,952	2,299	58.1
Wyoming	330	280	84.8
District of Columbia	764	900	117.8

NOTE.—National ratio of pharmacists to 100,000 of population, 64.

Source: Bulletin of the National Association of Boards of Pharmacy, vol. 12, No. 12. October, November, and December, 1961.

TABLE B.—*Pharmacists for a growing America* [1]

Year	Total U.S. population [2]	Need of pharmacists at present ratio of 67/100,000	Annual replacement need at 3.5 percent [3]	Actual replacement total [4]
1960	180,000,000	120,000	4,200	3,200
1965	196,000,000	131,000	4,600	----------
1970	214,000,000	143,000	5,000	----------
1975	240,000,000	161,000	----------	----------

[1] Submitted by Senator Hubert H. Humphrey to the Senate Labor and Public Welfare Committee during public hearings last year on S. 1072, a companion measure to H.R. 4999.
[2] Based on series 2 figures from Bureau of Census.
[3] Factor of 3.5 percent supplied by the National Association of Boards of Pharmacy.
[4] Represents pharmacy school graduates.

The CHAIRMAN. The final witness will be Mr. Richard C. Shipman. Mr. Shipman, I believe you are a representative of the National Farmers Union?

STATEMENT OF NATIONAL FARMERS UNION BY RICHARD C. SHIPMAN, ASSISTANT DIRECTOR

Mr. SHIPMAN. Yes, sir. My name is Richard C. Shipman. I am assistant director of the legislative services division of National Farmers Union.

We appreciate very much this opportunity to appear before the committee to express the point of view of the more than 250,000 farm families who are members of our organization.

National Farmers Union wishes to express this afternoon our full support of H.R. 4999. We do so because we recognize the critical need of the Nation as a whole for more doctors, dentists and health specialists, but more especially we wish to emphasize the serious problem of keeping professional people of this kind in the small towns of rural America where they are available to farm people. The country doctor who once served farm people is now long gone from the countryside. The typical situation today is that farm people depend to a great extent upon the occasional services of the public health doctor and nurse except in those instances where they happen to be adjacent to some metropolitan area.

Many rural sociologists believe that a large investment in regional medical schools serving several sparsely populated States would be a much wiser investment than a medical school attached to each State University. I refer you to the regional studies of Dr. Carl Kraenzel, formerly of Montana State College.

According to statistics from the Health Manpower Source Book of the U.S. Department of Health, Education, and Welfare, there are 37 States which fall below the national average of 125.3 doctors per 100,000 of the civilian population. The problem is most acute in Southern, Midwestern, and Great Plains States. South Dakota, for example, has only 70.7 doctors per 100,000 people. In the more isolated areas of these States, the ratio falls below 50 physicians per 100,000 population.

We believe that there are two main reasons why it is difficult to secure doctors for rural areas. One is cultural background—the other is money.

Let us consider the first reason. There is an old saying that you can take the boy out of the country but you can't take the country out of the boy. This old saying has a kernel of truth which we believe the committee should consider.

Statistics from the Journal of Medical Education indicate that the place where the boy is brought up is the most significant factor in determining where he will practice after leaving medical school. We refer you to the table attached. Therefore, the problem, it seems to us, resolves itself down to the question of how we get more farm boys to study medicine.

Here we find the second hard fact that the vast majority of young men who study medicine come from families with incomes of over $10,000 per year. According to 1959 statistics, farm income is $965

per capita, or about 45 percent of nonfarm income which is $2,216. It is not hard to see from these figures that few farm families can afford the long and expensive training necessary to make doctors out of their sons.

It is for these reasons that we urge upon the committee the passage of H.R. 4999 providing grants to schools for scholarship aid to talented but needy students.

May I close by saying it is a well-known fact that the agricultural technological revolution is forcing many of our young people out of farming. It seems to us both wise and fair, as well as in the national interest, to make it possible for these young people to get the kind of professional education that will allow them to go back to their boyhood surroundings to serve the people of those areas as doctors and dentists which are so badly needed.

(Table I referred to by Mr. Richard C. Shipman follows:)

TABLE I.—*Percent distribution of medical college graduates in private practice whose prior residence was in various size communities by size of community of practice, 1950 class*

Size of community of practice	Size of community of prior residence					
	All sizes	500,000 and over	100,000 to 499,999	25,000 to 99,999	5,000 to 24,999	Under 5,000
Number of graduates	[1] 3,311	850	729	577	488	590
All sizes	100.0	100.0	100.0	100.0	100.0	100.0
500,000 and over	17.6	45.6	7.3	9.5	7.4	7.3
100,000 to 499,999	19.7	10.8	41.3	13.2	14.9	15.9
25,000 to 99,999	19.8	13.8	14.7	40.4	20.9	14.6
5,000 to 24,999	22.9	17.6	19.9	22.5	36.7	22.7
Under 5,000	19.6	11.8	16.4	14.4	20.0	39.5
Foreign or not reported	.4	.4	.4	----------	----------	----------

[1] Includes 77 graduates whose community of prior residence was outside the United States or was not reported.

The CHAIRMAN. Mr. Shipman, thank you very much.

Mr. Younger, do you have any questions?

Mr. YOUNGER. I have no questions, Mr. Chairman.

The CHAIRMAN. We are glad to have the statement from the National Farmers Union.

Mr. SHIPMAN. Thank you very much.

The CHAIRMAN. We will now hear from our colleague Hon. Charles E. Bennett.

STATEMENT OF HON. CHARLES E. BENNETT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. BENNETT. Thank you, Mr. Chairman, for this opportunity to testify on the administration's "Health Professions Educational Assistance Act of 1961," which I was happy to join in introducing. We all have been long interested in some means of of relieving the continuing critical shortage of doctors and health personnel in this country, and I have noted for a number of years, in my work on the Armed Services Committee, the serious problem this poses also for our fighting forces in their attempts to maintain adequate medical services. It was

to help alleviate this problem that I introduced H.R. 67 in the 84th Congress to provide for Armed Forces medical scholarships. However, if the capacity of medical schools is not increased, the overall benefit from these approaches is limited.

I will not add, at this time, to the many statistics this committee has received in the past showing the need for doctors. Suffice it to say that this need only increases. A recent letter to me from the dean of the University of Miami School of Medicine confirms the urgency of the present situation, and points out in addition the good job small schools are doing in preparing graduates for practice in rural and semirural areas where the need is most critical. This particular school, although only 10 years old, was the first medical school in Florida. It has now graduated 307 students from 45 counties in Florida. The dean continues, "These men are now finishing their hospital training and armed service requirements, and are now returning to Florida to practice."

These small schools, however, must be allowed to expand and new schools are needed. The Association of American Medical Colleges reports that 3,500 additional physicians must be graduating each year from medical schools by 1975. Another interesting fact brought out by them points to the need for action by Congress at the earliest moment because it takes 6 to 10 years to develop a medical school and 5 to 9 years after college to complete a medical education. In the current session of Congress I introduced H.R. 4226, but am now seeking to support the administration's policies by introduction of H.R. 8833, companion to the chairman's bill, H.R. 4999.

I hope Congress will no longer delay in facing this problem which not only affects the health of our whole Nation, but its very security in seeing that its fighting men have sufficient medical services.

The CHAIRMAN. Thank you, Mr. Bennett, for your statement.

I would now like to include in the record at this time, a prepared statement from our colleague, Mr. Melvin R. Laird.

(Prepared statement by Hon. Melvin R. Laird, a Representative in Congress from the State of Wisconsin:)

STATEMENT OF HON. MELVIN R. LAIRD, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WISCONSIN

Mr. Chairman, the introduction of the Health Professions Educational Assistance Act in the 87th Congress and the hearings which this committee is holding on the bill are a recognition of serious problems that fact us now and will continue to face us in the next decade in the medical care of the people of this country.

For several years scientfic groups, meeting as advisory units and as organizations devoted to medical care and medical welfare, have recognized a growing shortage of physicians and of candidates for medical and dental degrees—a shortage which throws a long, dark shadow on the future of our medical well-being.

The Bayne-Jones report of 1958, the Bane report of 1959, the Boisfeuillet Jones report of 1960, the Association of American Medical Colleges report, "Proposals for the Support of Medical Education by the Federal Government," of 1961, and the reports of several other groups addressing themselves to the same problem have all recommended a program of Federal support for the construction of medical and dental teaching facilities, a program of medical and dental scholarships for needy students, and the expansion of the present program for the construction of medical and dental research facilities. They have uniformly and consistently built up a record of need in each of these areas which is a compelling one and which has convinced me we need the kind of legislation before this committee today.

The Bane report points out that since 1950 the ratio of physicians to population has remained at approximately 132 per 100,000. This ratio would be much lower if during this time we had not licensed nearly 10,000 foreign-trained physicians—1,680 in 1960, more than the output of 16 average-sized U.S. schools of medicine. If the present ratio of physicians to population is to be maintained in the face of our increasing population, particularly if we are to cease depending upon the present rate of licensing foreign-trained physicians, we will have to increase the number of admissions to medical schools from the current figure of about 8,200 to about 12,000 by 1970. In dental schools, we will have to increase admissions from about 3,600 to about 6,900. This means an increase in medical school admissions of about 50 percent and in dental schools of about 100 percent. I believe there is no professional group concerned with the future of the health needs of the citizens of this Nation that takes issue with these statements.

To enable these increases in enrollment to be physically accommodated, we will need substantial expansion of existing medical school and dental school facilities and the establishment of some 20 new medical schools and 20 new dental schools. The cost of such a total program is so sstaggering that it cannot be met entirely by local communities or by private means and, therefore, the provision of the bill before you—setting up a Federal program of matching grants for the purpose—is a very sound one.

The construction incident to the expansion of existing schools and the construction of new schools takes time. It also takes time for the students who will begin their education in these facilities to graduate and, before they are available for independent professional responsibility, more time to serve their internships and residencies and satisfy their military requirements. Therefore, time is of the essence.

The expansion of physical facilities in which to train young doctors and dentists does not solve the whole problem however. The cost of medical and dental education grows higher each year. The average medical school student when he finishes his academic training, internship, and residency specialty training is close to 30 years or more of age. He is usually married and has a young family. He has spent about $11,000 on the medical school phase of his medical education and much more if he is married and has children. He is very likely in serious debt—he may be in the 20 percent of graduates with an average indebtedness of $6,000 or more. During his subsequent internship and residency training, he receives a scale of pay that falls far short of actual living expenses. It is therefore easy to see why 40 percent of all medical students come from families with incomes of $10,000 a year or more, and why only 15 percent are from families with annual incomes of $5,000 or less. The high cost of medical education necessarily cuts off the flow of potentially good physicians in the pipeline of medical education who are not well endowed financially as they look forward to a long period of expensive training in order to get their degrees. It is my hope that the scholarship feature of this bill will be changed to an adequate loan program. A loan program can help more individuals and with liberal features will attract to medicine highly competent young men and women who otherwise would be forced into other fields of endeavor.

The part of the Health Professions Educational Assistance Act which interests me particularly is the part which provides for the extension and expansion of the program for the construction of research facilities. I have had a deep interest in this and have taken an active part in it as a member of the Committee on Appropriations during the past 6 years. The program has been one of the most effective the Congress has ever authorized in the field of public health. It has had 6 full years of life and, while most of the research construction was done on a 50–50 matching basis, actually the amount contributed by outside sources has far more than matched the 50 percent contributed by the Federal Government.

I believe the matching principle is a sound one and that basically the program should rest on such a formula. However, I have known also for the last several years that there are institutions in the country—most of them connected with universities—which are doing fine research and would like to do more, but who cannot raise the money to take care of their share of the 50–50 requirement. I am told there are on file in the Public Health Service more than $70 million of unmet needs in the research construction program. These requests—all of which are regarded as meritorious—are from institutions which can meet the

matching requirements. The backlog would be much larger if we had a statement of need from those institutions equally qualified who cannot raise their half of the funds.

I believe that the language in the bill before you, which enables some unmatched research construction funds to be provided, is based on the theory that there is a need for some research facilities—special in character and high in cost—serving a national or a regional need of many institutions and a great many investigators. I think this regional concept is sound and such a provision should be made. I also believe, though, that there are institutions which do not meet these criteria but rather are in undeveloped areas of research where research is needed and possible, but facilities in which the scientific work can go on are lacking. I believe these institutions, too, should be enabled to apply for funds on a nonmatching basis. I think that the decision on the interpretation of merit and need should be left to the Public Health Service and the Council empowered to carry out the purposes of the act. I would hope that the bill in its final form would give to the Council and the Service authority to make this judgment themselves and to vary the balance of matching and nonmatching funds from year to year as circumstances require. Since there is a ceiling on the authorization, there could be no excessive expenditure of Federal funds in any given year, but the amount of matching and nonmatching funds could vary as annual requirements dictated.

In closing, I would point out that in the field of health and medicine, if our people are to have adequate professional care, we must provide for increasing the number of medical scientists and teachers as well as practitioners. Therefore, as we look to the continued development of the research facilities in which the finished medical scientists can work, we must also provide for the basic education of the two groups from which they must come—the young people studying for M.D. and Ph. D. degrees. The medical school is essential to the early professional education of both of these groups and it is to this end, as well as the provision of research facilities, that this bill is designed.

I trust that the Congress will pass the bill this year and, in so doing, make a great contribution to medical research and medical care and to the well-being of our Nation.

The CHAIRMAN. I have a letter from our colleague, Mr. Daddario, which will be included in the record.

(Letter referred to from Hon. Emilio Q. Daddario, a Representative in Congress from the State of Connecticut, follows:)

HOUSE OF REPRESENTATIVES,
Washington, D.C., January 26, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Your committee has under consideration H.R. 4999 and related bills, to increase the opportunities for training of physicians, dentists, and professional public health personnel. I should like to urge favorable consideration of this legislation and ask that my statement be placed in the record.

I am particularly concerned because this legislation would be of assistance to Connecticut. There are only four medical schools now in New England, all of them fine institutions, but in need of help to meet an increasing public demand for medical and dental care.

Gov. John N. Dempsey, who is fully in support of this legislation, has given you information regarding the present situation in our State and Dr. Franklin Foote of our State health department has discussed it with you. I would note that our ratio of physicians to population was maintained only through a major increase in the licensing of physicians who had received their training outside North America.

I have been acutely aware of the critical shortage of training facilities for professional personnel facing us in the coming years. President Kennedy has referred to this shortage in his public statements. This same pressure on the limited number of physicians and dentists available to our country can be eased best through legislation of the type before you, through making greater opportunities available for the training of additional personnel to high standards.

The legislation which is before you is essential in the national interest. The basic problem of meeting this need for additional qualified medical and dental personnel is financial, and it is important to determine a fair share of our fiscal resources to be allocated in its support. I believe that H.R. 4999

and the related bills offer a good start on which the committee can base its judgment and I commend the principles of this program.

Sincerely,

EMILIO Q. DADDARIO,
Member of Congress.

The CHAIRMAN. A letter from Rutgers State University, which will be included together with accompanying letter.

(The two letters referred to from Rutgers State University follow:)

RUTGERS STATE UNIVERSITY,
New Brunswick, N.J., January 22, 1962.

Hon. OREN HARRIS,
House of Representatives, Washington, D.C.

DEAR MR. HARRIS: Last May I wrote a statement to explain our attitude toward the recommendations of the Association of American Medical Colleges in support of medical education by the Federal Government (see attached). To this statement I would add these marginal comments to indicate the importance of H.R. 4999 to Rutgers: The No. 1 priority for medical schools in this country is Federal matching funds for the expansion of existing medical schools and the construction of new medical schools. I am confident that such funds will hasten the development, among other things, of 2-year programs in the medical sciences. Schools of the basic medical sciences encompass the first 2 years of the medical curriculum, with a view toward transfer of the students to 4-year medical schools for their junior and senior classes. Contrasted to the crowded freshman and sophomore classes, it is estimated that there are nearly 1,000 openings annually in both the third and fourth year classes of our Nation's medical schools, with this situation pointing to an opportunity to add significantly to the number of young people undertaking the study of medicine.

I want to close by saying that medical programs, carefully organized and skillfully administered, can help meet the country's health care needs in the next two decades. The Federal Government's encouragement of these programs would increase the total contribution to the expanding body of knowledge.

Sincerely yours,

MASON W. GROSS.

MAY 4, 1961.

Dr. WARD DARLEY,
Executive Director, Association of American Medical Colleges,
Evanston, Ill.

DEAR DR. DARLEY: Your recent letter concerning the recommendations of the Association of American Medical Colleges in support of medical education by the Federal Government has been reviewed by several members of my staff. Rutgers supports your proposals in principle because the need for medical education in the United States is so great that it must be met quickly if we are to avoid the serious consequences resulting from a lowering of the current ratio of physicians to population.

* * * * * * *

We at Rutgers feel that one way in which the available supply of physicians and related medical scientists can be increased is through the establishment of 2-year programs in the medical sciences. Qualified graduates of these programs may elect to go on to medical schools for their third and fourth years, or may continue at the university for their Ph. D. Since most medical schools can enroll additional third- and fourth-year students without significant additions to plant or faculty, it would seem that such a program should be incorporated into any plan to increase the supply of medical personnel.

The number of 4-year schools is totally inadequate to supply the required physicians and we must increase them; but we should also attempt to increase this supply through all means available to the universities of the United States.

Sincerely yours,

MASON W. GROSS.

The CHAIRMAN. This concludes the witnesses for today.

The committee will adjourn until Tuesday next, at 10 o'clock.

(Whereupon, the committee adjourned at 4 p.m., to reconvene at 10 a.m., Tuesday, January 30, 1962.)

TRAINING OF PHYSICIANS, DENTISTS, AND PROFESSIONAL PUBLIC HEALTH PERSONNEL

TUESDAY, JANUARY 30, 1962

House of Representatives,
Committee on Interstate and Foreign Commerce,
Washington, D.C.

The committee met at 10 a.m., pursuant to recess, in room 1334, New House Office Building, Hon. Oren Harris (chairman of the full committee) presiding.

The Chairman. Let the committee come to order.

In resuming the hearings this morning on H.R. 4999 and related bills, our first witness will be Mr. Andrew J. Biemiller, director of the Department of Legislation, American Federation of Labor and Congress of Industrial Organizations.

Mr. Biemiller, I am glad on behalf of the committee to extend to you a welcome back to this committee. I am particularly glad to welcome you because of the association that we have had over the years dating back to your service in the Congress and as a member of this committee.

We are glad to have your statement this morning.

STATEMENT OF ANDREW J. BIEMILLER, DIRECTOR OF LEGISLATION FOR THE AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS, ACCOMPANIED BY LISBETH BAMBERGER

Mr. Biemiller. Thank you, Mr. Chairman. For the record, my name is Andrew J. Biemiller. I am director of legislation for the American Federation of Labor and Congress of Industrial Organizations. I am accompanied by Miss Lisbeth Bamberger, assistant director of the Department of Social Security of the AFL–CIO.

I appear before you to present the views of that organization on H.R. 4999, the proposed "Health Professions Educational Assistance Act."

I know that you and many members of this committee are aware that I have had a personal interest of long standing in Federal aid for medical education. During my tenure in the House, I sponsored legislation to meet that objective, and I am very pleased to have an opportunity to appear here today to express the strong support of the AFL–CIO for H.R. 4999.

The need for this legislation was amply demonstrated at that time; it is even more critical now. Our failure to provide Federal support for medical education has created severe hardships for medical students, for medical schools, and for the practicing physicians whose

time and strength are overtaxed because there are too few trained minds and hands to share their burdens.

The greatest hardship, however, fails on the American people, whose medical care is too costly and too hard to get.

Let me illustrate with an item that appeared in the magazine, Newsweek, on October 19, 1961:

> At 7 p.m., weakened by a hysterectomy, the lawyer's wife was given a blood transfusion by two resident doctors, a German and a Vietnamese. Silently, they rigged the transfusion bottle and inserted the needle into her right arm. Then, just as silently, they disappeared, leaving the patient alone in a well-known Washington, D.C., hospital.
>
> An hour later, the patient noticed that the serum in the bottle was separating, and the tube seemed clogged. Frightened, she rang the call button with her free left hand. No one answered. The phone was just out of reach on her right side. Bit by bit, resting between movements, she inched toward it. Finally at 10 p.m., more than 2 hours after the transfusion should have been completed, she was able to knock the phone to the floor, and the telephone operator sent a nurse to see what was wrong. She called the two foreign doctors, but neither spoke English, and the nurse told the patient that there wasn't a single English-speaking doctor available in the hospital.
>
> Now, panic-stricken and with no one to reassure her, the lawyer's wife watched the two foreign doctors tinker with the transfusion rig. Finally, they got it going and the transfusion was completed at midnight.

As Newsweek commented on this story:

> This is a harrowing example of the sort of experience that will become more common as the national doctor shortage becomes more acute. The doctor shortage is not only serious in hospitals. It plagues parents who are trying to find a doctor for a sick child at night, residents of rural areas that actually have no doctors, and, potentially, anybody in a time of emergency.

But grim as the tales may be of physicians unavailable at a time of crisis and emergency, this is only part of the price the Nation is paying for having too few doctors to meet its needs.

Recently the Department of Health, Education, and Welfare issued a report giving some of the statistics of the losses we suffer as a result of not fully using the medical knowledge we have.

At least 40,000 current cancer deaths are needless. If all current knowledge about control, detection, and treatment of cancer were fully applied, 120,000 patients with cancer could be saved annually instead of only 80,000. Cancer costs some $350 million in hospital bills, and more than $90 million in lost income of workers every year. Loss in goods and services resulting from cancer deaths of people in the productive ages has been estimated to total $15 billion a year.

Rheumatic fever and rheumatic heart disease take 20,000 American lives each year. But doctors can prevent rheumatic fever by treating strep throats promptly with antibiotics. A study of 1,000 persons hospitalized because of recurrent attacks of rheumatic fever found that if these patients had been put on a schedule of antibiotic treatment at their first attack, 90 percent could have avoided the second.

About a million persons who have glaucoma and almost a million and a half persons who have diabetes are receiving no treatment because they don't even know they're sick—though these conditions can now be easily detected. Untreated diabetes and glaucoma together account for about 20 percent of all cases of blindness. More than 100,000 blind people are receiving public assistance at a cost of about 90 million tax dollars a year.

The figures I have just cited emphasize the dollar value of needless loss through illness. They provide no estimates of the loss or delay in ideas, in scientific discoveries, or in political skills. Nor do they, or can they, estimate the hours of suffering and agony brought by illness, disability, and premature death.

H.R. 4999 is not, of course, a full answer to this challenge. The Federal Government must also undertake other programs to provide services which citizens have been unable to provide for themselves individually or through local or State governments.

Economic barriers that now stand between many citizens and the medical care they need must be removed. We in the labor movement have at least lowered that barrier for our own members by establishing, through collective bargaining, a wide range of health plans. We will continue our efforts in that direction. But we have found, through experience, that these efforts need to be supplemented by legislation. One outstanding example is an old-age medical care, where it has become obvious that the social security approach, as provided by the King-Anderson bill, is both sound and necessary.

We believe there is a pressing need for the expansion and reorganization of health services, especially at the community level. The Community Health Service and Facilities Act of 1961, passed under the leadership of this committee, holds great promise for improvements in this realm.

But the soundest reorganization of health care, and the most liberal provisions for financing it, to be fully effective must have the personnel to carry it out. In that sense, the bill before you now is the keystone of a sound health structure for America.

A recitation of the statistical support for H.R. 4999 would, I am sure, be redundant at this time. The witnesses who have preceded me during these hearings have ably contrasted the number of doctors our Nation has with the number of doctors our Nation needs, and will need in the future. They have compared the present capacity of our medical schools with the medical school capacity we must have and will require in the future. They have cited the enormous costs of a medical education, both to the student and to the institution which he attends, and the probability of future increases in these costs.

The evidence at hand shows unequivocally that in the absence of congressional action, the existing shortage of health personnel can only grow steadily more acute, adding further to the mounting cost of medical care and impairing its quality and availability to the public at large.

Recent years have seen a striking expansion in the demand for medical services. The rapid spread of health insurance programs and prepayment plans of various kinds has meant that millions of people who previously lacked the means to avail themselves of the kind of medical attention that they needed are now in a position to do so. The shift in population from rural to urban areas has added further to the demand for services. Greater life expectancy has increased the proportion of the population in the upper age groups, where the highest incidence of chronic illness and the greatest need for medical services exists. These trends can be expected to continue, at an accelerated pace, in the future.

In the face of this, the supply of physicians is increasing at a relatively static rate that falls far short even of the rate that would be required to maintain the existing doctor-patient ratio against the normal increase in population. More people, demanding more services per person, pressing upon a worsening shortage of physicians, can only increase the price of medical services, erode the value of health insurance plans and raise a higher cost barrier between the public and the best that modern medical science has to offer.

The chief barrier to any substantial increase in our supply of physicians is, of course, the limited capacity of the Nation's medical schools. Existing schools must be expanded and new schools must be built. Both can be done without injury to the quality of education. It is clear that existing sources of financial support are completely unable to meet the costs of a construction and expansion program adequate to the Nation's needs. Federal financial aid, as provided in H.R. 4999 is the only realistic and practical answer.

There has been considerable discussion about the decline in applications to medical schools during the last several years. We believe that the reasons for this are manifold. But certainly it is clear that with an average cost of $11,600 for 4 years of medical training, there is a vast reservoir of talented young people who cannot consider the possibility of entering the medical profession for purely economic reasons.

If the Nation is not going to lose the services of those who are gifted but poor, and if the equality of opportunity we cherish in America is not, because of the enormous cost of medical training, going to exclude promising young people from the opportunity to become physicians and dentists, then a program enacted by this Congress to provide scholarships to students of medicine and dentistry is an absolute necessity.

In conclusion, let me suggest that the American public is acutely conscious of our present shortage of physicians. Recently, the magazine, Good Housekeeping, surveyed a sample of 1,744 women in all parts of the United States, primarily from the middle-income groups, as to what these women think of their doctors and of the medical profession. It is interesting that the most frequent complaint that appeared among the comments that were volunteered at the end of the questionnaire related to doctors being too busy, not there when they were needed, and overworked. Here are some typical comments:

From a young woman in Florida: "We like our doctor, but he is never available when we need him." A housewife in a large Alabama city says, "I think most of the doctors today are overworked, overtired to do as well by their patients as they would like to. A tired body makes a tired mind." The young wife of a semiskilled worker in an Oklahoma city states pointedly, "Doctors are overpaid and overworked. The solution is simple. More doctors are needed. Competition will at once make a man a more intelligent doctor and a more rested one. We can only profit with this * * *" From a city in Texas, an older woman writes, "We feel our doctors are trying to care for too many patients * * * the Federal Government * * * can make more scholarships available, open more medical schools." From a large city in Missouri: "Being a registered professional nurse, I think * * * the general shortage of doctors taxes them individually to meet the public demand for care." A widow in a small New York community; "I think we have a severe shortage of doctors, especially in rural communities. One doctor in our town has office hours until 10:30 or 11 p.m." A mother in a large Illinois city: "The present supply is entirely overburdened and overworked. That is why they are in a hurry, make

you wait hours in the waiting room." A Colorado divorcee who lives with here two children in a medium-sized city: "Some persons feel they aren't given enough time by their doctor, but they don't realize the critical shortage of doctors and the tremendous demand * * *"

Although the concept of a physician shortage was never mentioned in the questionnaire sent out by Good Housekeeping, the magazine concluded that the existence of a doctor shortage was demonstrated by its national survey panel, and that—

the eloquent comments volunteered by the panelists lend human substance to a problem that can never be appreciated in terms of statistics alone.

Gentlemen, the members of the AFL–CIO throughout the country are also well aware of our national physician shortage. The AFL–CIO stated in convention action that the training of more doctors was—

among the most pressing of America's health needs.

The AFL–CIO convention, meeting less than 2 months ago, called upon Congress to enact legislation—

to provide grants to medical and dental schools to assist these schools in financing of planning, construction, expansion, restoration, and cost of education, and for scholarships to qualified medical and dental students in need of financial assistance.

The need for legislation to provide Federal assistance to medical, dental and public health education is too compelling, so well documented and so immense that it is impossible to justify a single further day of hesitation or delay. We hope that this committee will act with a sense of urgency, to insure that when this session of Congress is over, programs will be underway to deal with a problem which is steadily increasing in severity.

The CHAIRMAN. Mr. Friedel, any questions?

Mr. FRIEDEL. I want to thank Mr. Biemiller for a very fine statement. He has made some very good points.

Mr. Biemiller, you brought up the question of scholarships and the problem of the person who has the qualifications and could become a medical doctor or dentist but doesn't have the funds to go forward.

And you also brought out that this is a national problem and not a State problem.

For instance, in Maryland we have the University of Maryland, and about 75 or 80 percent of the students are Marylanders. But after they graduate only about 38 percent practice in the State of Maryland, and the others go to other States. And it is not fair to make Maryland pay for the education of the doctors that go out to other States.

I do think it is a national problem. And I want to compliment you for a very fine statement.

The CHAIRMAN. Mr. O'Brien?

Mr. O'BRIEN. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Hemphill?

Mr. HEMPHILL. Thank you, Mr. Chairman.

There is quoted from Newsweek here a statement which says:

Residents of rural areas that actually have no doctors.

One of the concerns that I have about this legislation is that we might not accomplish what we all want to accomplish by it, and that is, getting the doctors in the small towns at the rural areas where you

do not make $50,000 a year and where you have to see folks at night and give them service. Fortunately I have a doctor that serves well in my hometown. And I suppose there is no way to write it into legislation, it's a matter of morals and service.

Mr. BIEMILLER. The suggestion has been made, Mr. Congressman, in some instances—and I am throwing it out as a suggestion without trying to pass judgment on its value—that you might give a greater scholarship in monetary terms to those who would agree to serve X number of years in a rural area. I know that on a very small scale this has been done in some institutions.

Now, whether this has validity or not, as I said, I do not at this time presume to pass judgment, you would have to talk to some of the people who deal with this problem day by day.

Mr. HEMPHILL. Then we would have to go back to one of the elemental questions here, the question of a grant or the question of a loan, which appears to be one of the questions before you. And you couldn't have a forgiveness feature unless you had a loan, the way I see it. Do you see any way of having a forgiveness feature in a grant?

Mr. BIEMILLER. On loans, I would agree. But on the question of scholarships, I would suggest the possibility of giving a more substantial scholarship to a person who would agree to serve X number of years in a rural area.

On the question of loans, if you are going to get into that—we prefer scholarships, but if you are going into loans—you have got a pattern already set in NDEA, a variant of this proposal under NDEA wherein a person who agrees to teach for 5 years is given 10 percent

In some medical circles I know this matter has been discussed and put forward on a quite serious basis.

Mr. HEMPHILL. One of the things that is bothering me is the fact that there seems to have been a good bit of testimony here that the people just couldn't afford to go to medical school. As I understand the problem, they haven't got room for them if they go there.

Mr. BIEMILLER. That is a question. As I stated here earlier, and as the chairman well knows, in 1949–50 I was coauthor of the Taft-Biemiller bill in which we attempted to set up a similar program. At that time, I was, frankly, a little more current in my knowledge in terms of details than I am now. At that time, there was indeed a tremendous shortage of places for applicants. But my understanding is that this is no longer the case today, that some medical schools are recruiting—not recruiting in any crude sense—but are very anxious to have applicants come in, and that a well-qualified person doesn't have too much difficulty finding a spot. However, if your statement is correct—and I am not doubting that there is validity in the terms of some schools—this means that the expansion of existing schools as well as the building of new schools is necessary, because you can only take so many people into the facilities, you can't expand medical school facilities as you can, say, for a history class, double it—while it is a bad thing to do, you can do it with a history class—but you can't do that with a medical laboratory, obviously.

And that is another reason why we feel very strongly that we do want to get expansion of teaching facilities as well as scholarships for deserving students.

Mr. HEMPHILL. Thank you.

The CHAIRMAN. Any further questions?

Thank you very much, Mr. Biemiller, for your appearance.

Dr. Harold S. Diehl?

Dr. Diehl, will you identify yourself for the record and proceed?

STATEMENT OF DR. HAROLD S. DIEHL, SENIOR VICE PRESIDENT FOR RESEARCH AND MEDICAL AFFAIRS AND DEPUTY EXECUTIVE VICE PRESIDENT OF THE AMERICAN CANCER SOCIETY, INC.

Dr. DIEHL. Yes, Mr. Chairman.

Mr. Chairman, and members of the committee, I am Dr. Harold Diehl, senior vice president for research and medical affairs and deputy executive vice president of the American Cancer Society, Inc. Prior to the assumption of my present position, I served for 23 years as dean of the medical sciences of the University of Minnesota.

The privilege of my appearance before you this morning was requested by the American Cancer Society for two reasons: first, that I might convey to you the society's earnest and strong support of bill H.R. 4999, known as the "Health Professions Educational Assistance Act of 1961"; and second, that I might express to you my own opinion based on many years of experience in medical education relative to certain aspects of this bill.

The American Cancer Society is convinced that the purposes of this bill, namely, the expansion and improvement of medical research and the education and training of more physicians are essential for the control of cancer and for the prevention of suffering and deaths from this dread disease.

Part A, section 3, of this bill provides for the extension and expansion of research facilities grants. The need for more and better facilities for medical research is so well recognized and has been so ably discussed by others who have appeared before you that I will not speak of this except to say that physicians are helpless and will continue to be helpless to prevent fully half of the 275,000 deaths from cancer which occur each year in this country until scientific research gives us more complete understanding of the causes and the nature of cancer and provides us with new tools and procedures for its early diagnosis, for its better treatment and ultimately we hope for its prevention.

The Congress has given great impetus and assistance in recent years to the expansion and improvement of facilities for medical research. However, there is still a great need for many universities and medical research centers for additional research facilities. The American Cancer Society hopes that you will assist in meeting this need by the passage of this section of H.R. 4999.

Part B of this bill provides grants, on a matching basis, for construction of medical, dental, osteopathic and public health teaching facilities. The need of more physicians to provide adequate medical care for the increasing population of our country is too well accepted to require argument or documentation. Yet, the urgency of this need is particularly impressive to those of us who are devoting ourselves and our efforts to the control of cancer. The reason is that we already have the scientific knowledge necessary to save fully half of the 450,000 persons in this country who each year develop cancer. We are, however, saving only approximately one-third of these. In other words,

we have the medical and scientific know-how to save an additional 75,000 persons who each year die from cancer.

Incidentally, let me interject, Mr. Chairman, that you and the members of the committee may note that Mr. Biemiller's figures are more conservative than mine. I think he mentioned the figure of 40,000 that might be saved each year, as to the number of cancer deaths that it should be possible to prevent. I am certain, however, that the figures that I present are conservative rather than liberal estimates in this area.

To accomplish this we need not only the understanding and cooperation of the public, but also more physicians to conduct the regular thorough physical examinations upon which the early diagnosis of cancer so largely depends. The American Cancer Society, therefore, has a very special interest in having available an adequate number of well-trained and cancer-conscious physicians.

In order to educate the physicians which our country needs, the teaching facilities of existing medical schools must be expanded and improved and new medical schools must be developed. This need has been so well documented and convincingly presented to you by the president of the Association of American Medical Colleges, Dr. Donald Anderson, that I will merely say that I thoroughly subscribe to and endorse everything that Dr. Anderson has presented and that I hope that you will pass favorably upon this section of the Health Professions Educational Assistance Act of 1961.

Part C of this bill provides for scholarship grants for students of medicine, osteopathy, and dentistry. It is to this section of the bill that I particularly wish to address my remarks.

It is obvious that if we are to have more physicians and more medical investigators we must have more high-quality medical students. It is the purpose of the scholarship section of this bill to help provide more such students for the health profession.

To justify enactment of this section of the bill, you doubtless need to be satisfied upon several points: such as, is there a need for scholarship aid for medical students; will scholarships result in more high-quality applicants for medical schools; and are scholarships preferable to other types of financial assistance such as loan funds?

Had I been talking with you about these questions prior to World War II, my comments would have been quite different from what they are today. To a very large extent I worked my way through medical school. I envied my classmates who did not need to spend the time and effort that I did on all sorts of jobs and activities. Yet I and many others got our medical educations by so doing. In my early years as a medical school dean, I felt that most medical students, if they had sufficient ability, energy, and desire, could do likewise. On this point, however, my thinking was vastly changed by my experience with the students who were in medical school during World War II under the Army ASTP and the Navy V-12 programs and after World War II under the GI bill. As you doubtless remember, the students under these military and veterans programs were provided with tuition, books, and essential living expenses. The result was that a large proportion of our medical students were able and dedicated young men who without financial assistance would not have felt that they could even dream of undertaking the long, expensive years

of education required for the practice of medicine or for service in the other health professions.

And that was 15 or 20 years ago. Today the expenses of attending medical school are vastly greater and the possibilities of earning money while so doing are distinctly less. Furthermore, today a large percentage of potential medical students are married before they are ready to enter medical school. In fact, of last year's medical graduates 24 percent had been married before entering medical school and 36 percent were married while in school. Many wives of married students work to help support their husbands in school but the arrival of children usually puts an end to this at the same time that it increases financial obligations. We may not look with favor upon these early marriages; nevertheless, they are among the facts of life which we must face realistically.

Another disturbing fact is that more than half of our medical students come from the 10 percent of families with incomes of $10,000 or more per year. In other words, about half of our medical students come from 10 percent of our upper income families. Incidentally, as I am sure many of you realize from personal experience, it is not easy today, even with a family income considerably in excess of $10,000 a year, to finance the college education of one's children even though they do not aspire to the long expensive education required for medicine or medical research.

Since World War II, and the termination of benefits under the GI bill, the University of Minnesota Medical School, with which I was associated, has made a great effort to raise funds for scholarships from alumni and from interested citizens, private foundations, and corporations within the State.

The amount of these funds has gradually increased but the number of scholarships and the stipends which they carry are still, and from these sources always will be, woefully inadequate. For example, during the current school year, the University of Minnesota Medical School had $30,250 available for scholarships. This amount was used for the support of 70 scholarships with stipends ranging from $100 to $750 but averaging only $432. Yet 213 students applied for these 70 very modest scholarship awards.

Loan funds, such as provided by the National Defense Education Act, are very valuable in helping students meet emergency and unanticipated expenses but few students are willing or able to borrow the basic funds required to finance the years of education and training required of physicians.

Business, industry, and intellectual activities of all types are competing for the best young candidates. Yet, recruitment for medicine and the other health professions is handicapped by the length and the costs of training and the inadequacy of financial aid. To maintain quality in our future physicians, we must be able to recruit a fair share of America's finest minds for the medical profession. And the recruits for a profession which serves all of our citizens should come from all walks of American life without financial roadblocks diverting them to other vocations or occupations.

Superior ability and the desire to be of service to others are not limited to the children of parents in the upper income brackets. If scholarship aid as provided in this bill becomes available, I am con-

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vinced that many more able and dedicated young men and young women will prepare themselves for careers in the health professions.

Paragraph 2(d) under section C provides for educational grants to medical schools. On the basis of long experience as a medical school dean, I can assure you that the medical schools need more funds that their parent universities can provide if they are to assemble and retain the faculties required for the instruction of the large number of students whom we need for the health professions.

I, therefore, urge support also for the operating budgets of our medical schools.

In conclusion, I wish to express my appreciation for the privilege of speaking with you concerning this bill which the American Cancer Society and I personally feel is of basic importance to the medical services which our people need and deserve.

I thank you.

The CHAIRMAN. Mr. Rogers, any questions?

Mr. ROGERS of Texas. Dr. Diehl, I have been receiving quite a bit of mail from optometrists complaining about not being included in this. Do you have any observation on that?

Mr. DIEHL. I have not had any part in the formulation of the bill. However, as much as we need to have our eyes refracted and our glasses corrected, I would question whether optometry is as basic a need of our society today as the other health professions provided for in the bill.

Mr. ROGERS of Texas. Do you think, then, that it would be separated even from the general category of public health personnel, Public Health Service personnel?

Mr. DIEHL. No; I do not feel that optometry should be separated from the category of public health personnel, but there are many other health professions that are not included in the bill, and if the bill covers too much it will become too impractical to enact.

Mr. ROGERS of Texas. Doctor, what part, or what percentage of the needs can be met by the Cancer Society contributions, by voluntary contributions?

Dr. DIEHL. Well, it is difficult to say. Some medical schools have more scholarships from private sources than others. At the University of Minnesota we have had—I say we, although I have been away from there for almost 5 years—we have had unusual interest and support from the people of the State in the medical school. And last year they succeeded in raising some $30,000, which provided 70 scholarships averaging $440 each. But for those 70 scholarships they had, I think, 213 applications.

A $400 scholarship is really inadequate to meet present day needs. This concerns me deeply, not only because of what it means to medical students who are compelled to live in situations that handicap them in their work and their family life, but also, because I am convinced, after being acquainted with the students who received more adequate support under the V-12, ASTP, and GI programs, that there are large numbers of students who never apply for admission to medical schools, because they do not see any possibility of financing the long, expensive medical course.

Mr. ROGERS of Texas. I think that is right, Doctor. And I think this, that perhaps there are quite a few of these scholarships that are

wasted to a certain extent, because you talk about giving a man $100 or $150 it is like giving a starving man one drop of water to help him. A hundred dollars doesn't go very far, or $150. I just wonder if any thought has been given to reevaluating the scholarship programs generally and trying to coordinate the efforts.

Dr. DIEHL. I think studies of that sort have been made by the Association of American Medical Colleges. If I remember correctly, this bill provides scholarships to qualified students according to need but not to exceed $2,000 per year for up to 25 percent of the students in the school.

At the University of Minnesota last year approximately 40 percent of the students applied for 70 very modest scholarships available. So there is definite need for private funds to provide scholarships beyond those provided by this bill.

Mr. ROGERS of Texas. Doctor, you do feel, though, that the provisions of this bill are properly the office of the Federal Government?

Dr. DIEHL. I feel that is a very proper area for the Federal Government to support, or one might say, to invest in, because no medical school provides physicians exclusively for any particular or limited area.

At the University of Minnesota, which is a State university, a large portion of the medical students are residents of the State. And yet less than 40 percent of these students practice medicine in the State.

So even a State university is not training students exclusively for that State. Its graduates are not only scattered throughout the United States for the practice of medicine but they also serve in the Armed Forces, the U.S. Public Health Service, the Veterans' Administration and other Government services.

Mr. ROGERS of Texas. You think the proper procedure is for the States to move in this plan rather than create Federal universities to meet these needs?

Dr. DIEHL. I do, definitely.

Mr. ROGERS of Texas. Now, do you differentiate, Doctor, between grants-in-aid for construction purposes with relation to scholarship grants?

Dr. DIEHL. Well, they are both needed. In some medical schools facilities are adequate and do not meet modern requirements for instruction. These need modernizing and expansion. But buildings are of no value without students and we need more well qualified medical students.

Somebody stated earlier, I think it was Mr. Hemphill, that he understands that many students cannot get into medical school. In response to this I would say that I do not know of a medical school in this country that is not desirous of more good applicants. The total number of applicants for admission to medical school is less than there were some years ago.

Every medical school is filling its classes, but some of the students are not very promising. In fact, the last ones admitted by practically every medical school are students of relatively lower levels of ability. I know that this was true at Minnesota where, we had a good group of applicants to draw from and the dean of Harvard told me that the same situation pertains there.

Furthermore, studies have shown that medical schools are not getting as large a percentage of high ability students as measured by aptitude tests and college grades as we were some years ago; and that a larger proportion of such students are going into engineering, physics, and similar professions.

Mr. ROGERS of Texas. Doctor, I have been told several times by doctors that there are vacancies in all the medical schools throughout the United States, in other words, that they could use more students, that they are not full, and that there isn't any need for building additional medical schools. Now, do I assume from that statement that what you need is a rehabilitation of present facilities and an expansion of present facilities?

Dr. DIEHL. Both, many medical schools need rehabilitation and expansion of present facilities, and we also need some new schools.

Mr. ROGERS of Texas. Do you think, Doctor, that the number of doctors with relation to the population ought to be increased?

Dr. DIEHL. I do. There are many areas in which more physicians are needed. And of course the population is increasing.

A question was raised earlier about getting doctors out to small communities, whether a provision to encourage this should be attached to this bill. Personally, I question whether it would be desirable to require this as a provision of the bill. In Minnesota the State medical society has provided a few scholarships with provision that recipients of these scholarships agree to practice for several years in communities of 3,000 or less population. Something similar might be considered by your committee. On the other hand, some of the students who need financial assistance may make their greatest contributions in research, teaching, or one of the specialties of medical practice.

However, if we train more doctors they will find their ways into the smaller communities.

Another thing that Congress is doing which will assist in this is the building of hospitals and improving medical facilities in small communities. The young doctor who goes into a small community usually can make a better income than the doctor who takes more years of specialty training and then locates in a city. A major difficulty is that in many small communities physicians do not have the facilities required for modern medical practice. A young doctor just does not feel he is doing right by his patients unless he has the facilities to practice good medicine. Furthermore, doctors in small communities are often overworked.

Mr. ROGERS of Texas. I was interested in your statement that you worked your way through medical school. Of course, everyone who did that is very proud of it, including me, who worked my way through law school—there were times when I didn't think I was going to make it. But don't you think at the present time that the new numbers you have applying for medical school is due partly to the fact that many of these boys hesitate to get into premed because they don't have any assurance that they are going to be allowed to get into medical school when they finish their premed?

I know several boys who were in school at the time I was there, and some of them went through a premed course and were blocked from getting into medical schools and went back and had to take a B.A.

Dr. DIEHL. That may well be true.

Many medical educators, however, do not like this so-called premed course. We think that a doctor should have a good liberal education with the inclusion of certain science subjects which are necessary as a background for medicine.

When I got my B.A. degree I had not planned to study medicine. So I taught high school a couple of years to pay back the money I borrowed for college and saved a little, and then I decided to go into medicine. The long time involved in such a program may deter some. But the student can plan his course to provide a good liberal education and still include the science courses that he needs. I deplore the practice of the student who goes into academic college as a premedical student and takes a limited, narrow program to take the shortest route that he thinks is going to get him into medical school.

Mr. ROGERS of Texas. Now, Doctor, in your State, do you have scholarships where the recipient of such a scholarship is required to agree to serve in a small community for a certain length of time?

Dr. DIEHL. The State medical society has provided one of those scholarships each year.

Mr. ROGERS of Texas. What was your experience with them?

Dr. DIEHL. We have always had applicants for them. But as I say, we have only had one such scholarship a year.

Mr. ROGERS of Texas. Do you think, if you expanded the number of scholarships in that regard, with the number of applications it would help out on this smalltown situation?

Dr. DIEHL. It might help. But as I said before, I feel that if we train more doctors, many of them will find their way into the smaller communities. It certainly would not be a happy situation for a young doctor to go to a small community merely because of an obligation to do so; or to remain there if he were dissatisfied or unhappy.

Actually, the finest satisfaction that a doctor can get in the practice of medicine is frequently found in a small community where he knows the people, they know him, he is their counselor and their friend, and still he has the facilities to practice the quality of medicine that gives him a personal and professional satisfaction.

Mr. ROGERS of Texas. Doctor, what would you think of a provision in this bill requiring a sort of postinternship in a small town of, say, the same length of time as an internship?

Dr. DIEHL. No, I do not think that would be desirable. Some medical schools are requiring students as part of their clinical training to spend 6 weeks or a month with doctors in small communities. The University of Wisconsin and the University of Kansas Medical Schools do that. This is fine, but I think that it would be undesirable to require it of all medical schools.

Mr. ROGERS of Texas. Thank you, Mr. Chairman.

The CHAIRMAN. Any further questions?

Mr. Younger?

Mr. YOUNGER. Dr. Diehl, when the Secretary appeared before the committee he told us that he had placed a holding on $102 million of their appropriated funds. And part of those funds were withheld from the Cancer Research Institute. He answered the questions, as I recall, that the Congress had appropriated more money than could be intelligently used—I would like your opinion on that as to cancer research.

Dr. DIEHL. The American Cancer Society has given this question very careful consideration because we have heard similar reports. Our conclusions are, as representatives of the society will testify before Congress, that not only the amount appropriated last year but a very substantially larger amount can be effectively used and is really needed to support worthwhile cancer research today.

The American Cancer Society has scientific advisory committees composed of scientists all over the country that pass upon the requests for research support that we receive. And at the last meeting of the board of directors we had approximately $4 million in applications for grants approved by our advisory committees beyond that we were unable to support because of inadequate funds. In addition, we have studied the situation of the National Cancer Institute, and we are convinced that the statement that there is more money for cancer research than can be use effectively is inaccurate.

Mr. YOUNGER. I am glad to get that testimony.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. O'Brien?

Mr. O'BRIEN. You stated, I believe, that 60 percent of the graduates of medical schools last year were married, is that correct?

Dr. DIEHL. Yes, that is correct.

Mr. O'BRIEN. Wasn't there a time when most colleges and universities frowned upon married students? I know the GI bill changed a great deal of the thinking in that respect. But isn't it a fact that in many schools that if you were married during your undergraduate period you were dismissed from school?

Dr. DIEHL. This has never been true of medical schools and certainly in recent years it has not been true of other colleges. When I was in medical school, there were not more than 3 or 4 students in my class who were married when they finished. Now 60 percent or more are married. I personally wish that these young folks would postpone getting married. I think it would be better for their education, and better for their later family development. But this is one of the situations that we are faced with. In some instances, as you said, the GI bill enabled them to get married, and, of course, many of them had postponed their marriage due to war service. It was the general opinion that after the end of the war and the termination of the GI bill, the proportion of student marriages would drop, but it has not done so.

Mr. O'BRIEN. Doctor, I was interested in your statistics. I have been a little concerned during the hearing with the suggestion that perhaps because of the lack of facilities we should proceed now with the construction in this bill and perhaps postpone the scholarships. Isn't it a fact that when it comes to decision or desire to go into the medical profession, that is very often born at the high school level, a student might have a particular talent in that direction, he consults with his parents, or he looks around in his house and finds out that there are 5 other kids that have to go to colleges, so he abandons the idea of that and pursues a course of study in another direction, is that true?

Dr. DIEHL. I am sure that is true.

Mr. O'BRIEN. Wouldn't the scholarship provision in this bill help not only those who are very near going to medical school but those some distance away in planning their medical career?

Dr. DIEHL. That is right. If this bill is passed they can look forward to an opportunity for financial assistance if they need it and can qualify for it by the time they get to medical school.

Mr. O'BRIEN. Wouldn't you say a very heavy percentage of those who might otherwise go into medical school or try to get into medical school are diverted at the high school level because of the financial situation of their family?

Dr. DIEHL. Yes, in both high school and college.

Mr. O'BRIEN. Statistics always overwhelm me a little bit. You say that over half of our medical students come from 10 percent of the families with incomes of $10,000 or more a year. Isn't it a fact that nearly half of your students come from about 7 percent of the families, and that $10,000 a year nowadays, if there is more than one child in the famly, would make it very difficult to educate a boy all the way through medical school?

Dr. DIEHL. That is quite true.

Mr. O'BRIEN. And if it is done it would often be done at the expense of other children in the family?

Dr. DIEHL. That is right.

Mr. O'BRIEN. Thank you very much, Mr. Chairman.

Mr. NELSEN. Mr. Chairman, I wish to welcome Dr. Diehl to the committee. I remember his appearances before our legislative committees in Minnesota for many years, and we are grateful for his leadership in the University of Minnesota Medical School, which is one of the best in the country.

I was interested in your statement as to working your way through medical school. And this same question has been brought up several times by other members of the committee, that a part of the makeup of any good citizen is a desire to want to pay back any assistance that has been given him in any field. And, of course, the testimony that you cite presents some factors that have come with the times, which makes it more difficult.

But there would be merit, in my judgment, to a liberal loan program that would have some liberal forgiveness features in it, at the same time also presenting a situation where a revolving fund could build up where there would be money coming back to educate those who follow and those who might have enjoyed some assistance and help from that program.

Wouldn't you feel that there would be some merit in the liberal loan feature also?

Dr. DIEHL. You speak of a loan program with forgiveness features in it. Such loans would be somewhat like scholarships.

As I said before the situation is vastly different today from when I was a student. Expenses are higher, the medical curriculum is heavier, and the students do not have the opportunities to work on the side that we had. In fact, I feel quite certain that at the one time that I had to make a decision as to whether to take a position that was available to me or go into medicine, I would not have felt that I could have gone into medicine had I been faced with the financial situation that confronts medical students today.

And, as to loans, they are very helpful, but not all students are willing to accept loans. At the University of Minnesota some loan funds were unused because students, particularly if they are married,

just do not want to mortgage their future. I do not think that scholarships should be so large that they just take care of all expenses so that students can just ride along. If scholarships are modest, as provided by this bill, an individual would have to make a real contribution himself. There is much to be said for a person showing incentive.

Mr. NELSEN. At Good Thunder, Minn., the community there built a clinic for the dentists and a doctor, a beautiful facility. And a doctor came in at their invitation, but left within a month, and they still have no doctor. This was several months ago.

You mentioned something about facilities in which to work. And as I mentioned before, the incentive feature in this bill might not do the job. But would it not be true that if we had an abundance of doctors this would be corrected, but not until?

Dr. DIEHL. That is right. In fact, I saw in the paper recently that Graceville, where Senator Oliver used to live, is now without a doctor. Shortly before I left Minnesota as dean, a young doctor came to me and said, "Can you help me find someone who will join me in practice?" He was located way up north near the Canadian border. He said, "So far as income is concerned, I am making more than I am interested in or concerned with." But, he said, "I just can't stay, I am going to have to leave unless I get some help. I am not living, I am going 7 days a week, and half the night. And I cannot take it much longer. Unless I can get help I will go to the city and take other work at half the income I am getting now."

So it isn't primarily income, it is having facilities and sufficient opportunity as to patient load and so as to do a satisfactory type of work.

Mr. NELSEN. What percentage of your graduates at Minnesota go outside the State to practice; have you any figure there?

Dr. DIEHL. A few years ago when we surveyed that, it was about 60 percent.

Mr. NELSEN. Almost two-thirds go out of the State?

Dr. DIEHL. Yes. But Minnesota gets about an equal number who come into the State from other medical schools.

Mr. NELSEN. How does the University of Minnesota Medical School, as far as size is concerned, compare with the country?

Dr. DIEHL. When I left I think we had about 125 students to a class, today they are taking 140. And as facilities are expanded this number will be increased somewhat.

As you know, the Minnesota Legislature has been very helpful in expanding and improving our medical school facilities.

Mr. NELSEN. Thank you very much, Doctor.

The CHAIRMAN. Mr. Kornegay?

Mr. KORNEGAY. No questions.

The CHAIRMAN. Mr. Curtin?

Mr. CURTIN. Thank you, Mr. Chairman.

Doctor, from what you say there would appear to be no question but what the greatest scarcity of doctors is in the rural communities; is that correct?

Dr. DIEHL. Yes.

Mr. CURTIN. Is there anyway we could work these grants, or loans, whichever they might evenutally be, so that a fair proportionate

number of these new doctors would become general practitioners in a rural area rather than specialists in an urban community?

Dr. DIEHL. Mr. Nelsen mentioned the possibility of a forgiveness feature. One possibility that has been suggested is a loan fund with certain forgiveness features for the years that they spend in a small community or in teaching or research in which there is a need. That has appealing features. On the other hand, I feel, as I said before, that basically the best solution is to provide more doctors so that there will be more of them to go out into these communities.

Mr. CURTIN. Apparently one of the main objections to being a general practitioner is the very long hours, and I presume that the income feature is also a factor.

Dr. DIEHL. By and large, the general practitioner does well as far as income is concerned.

Mr. CURTIN. But isn't it a fact that we are getting a disproportionate number of doctors congregating in the urban community where they become specialists and do not work long hours, while this scarcity of doctors in the rural areas grows more noticeable?

Dr. DIEHL. There is a limit to the number of specialists that are needed in the various areas. In general, our country has operated on the principle of supply and demand. And I think it would apply here.

Mr. CURTIN. What would be your final word, then, on some form of a conditional grant if it was a grant or forgiveness of part of a loan, if it was a loan, conditional on practicing in a rural area?

Dr. DIEHL. Personally, I think the bill is excellent as it is. If the committee wishes to consider the possibility of loans with forgiveness for service to certain communities, in teaching, in research, and in other types of public service, I agree that the suggestion is well worthy of exploration.

I might add that at the time the V–12 and ASTP programs were discontinued, I was associated with the National Health Resources Committee, and there was the question, how we could get enough doctors for the armed services. With this in mind, I asked our medical students how many of them would be willing to agree to serve a year in the armed services—Army, Navy, or Air Force—for each year that you receive a continuation of financial assistance such as you have had under ASTP or V–12. As I remember it, about 40 percent of the hands went up.

Mr. CURTIN. That would rather indicate that such a complete, or partial forgiveness of a loan, or a conditional grant, would be successful, don't you think?

Dr. DIEHL. Yes; I do. In fact, I tried to carry on a one-man effort to get that sort of program approved, but I did not get anywhere with it.

Mr. CURTIN. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Healey, any questions?

Mr. HEALEY. No questions.

The CHAIRMAN. Thank you very much, Doctor.

We are very glad to have your presence here today.

At this time, I am glad to welcome our colleague, the Honorable Henry B. Gonzalez.

Mr. Gonzalez, we want to extend to you a welcome to this committee. I believe this is your first visit.

STATEMENT OF HON. HENRY B. GONZALEZ, A REPRESENTATIVE IN CONGRESS FROM THE 20TH DISTRICT OF THE STATE OF TEXAS

Mr. GONZALEZ. Yes; it is, sir.

The CHAIRMAN. And I think it is quite interesting that you would come here on such an important proposal as this bill is under consideration now.

Mr. GONZALEZ. Thank you.

The CHAIRMAN. And we are very glad to have your statement.

Mr. GONZALEZ. Thank you very much, Mr. Chairman.

Mr. ROGERS of Texas. Mr. Chairman, as a fellow Texan may I also welcome Mr. Gonzalez and say that he is probably moving faster than any man I know in Congress. A week ago I introduced him as the newest member of the Texas delegation. He has gained two places in less than a week. So if he continues to move that fast, he is going to go far.

It is good to have you, Mr. Gonzalez.

Mr. GONZALEZ. Well, I have a mighty big place to fill. You know my predecessor, Mr. Kilday, was highly thought of, and served very ably in my district, and it is a pretty tough job to come in at midstream and try to carry on.

But I deeply appreciate your willingness to listen to me. I don't intend to take much of your time, because I think that most of what I have to say may already have been on record here through other sources.

I know Dr. Ransom, the chancellor of the University of Texas, and Dr. James P. Hollevs, who is president of the medical foundation in Bexar County, and also other people are interested in this bill. But essentially I just want to reemphasize some of the points that Dr. Ransom has made in his letter to the committee in behalf of this H.R. 4999.

It is a very important bill to us.

I have a little bit more than just a passing knowledge of the need, because I served in the State senate, and had the bill in the senate that designated Bexar County as the site for the third branch of the University of Texas Medical School. And last year the State legislature appropriated moneys. But part of the moneys were appropriated on the basis that there would be matching funds available from the Federal Government.

Now, Dr. Ransom points out that in Texas the demands placed upon the institutions providing supplies of doctors and dentists are such that unless this type of legislation is enacted, Texas will fall short of meeting its obligations in that very important respect.

I want to especially emphasize one statement that he made. He said:

> These realities dictate our conclusion that essential physical facilities for medical and dental education in the State can be provided only through the shared financing arrangements proposed in H.R. 4999—

and with particular reference to section B or part B of the grants-in-aid on a shared-cost basis for the physical plants that are necessary.

I know that my community has thoroughly showed its wholehearted and solid support, because we had a $6 million bond issue that carried overwhelmingly 10 to 1 in behalf of providing the local funds,

the countywide funds, in its attempt to share the cost of construction of the third branch of the school.

I would like to conclude by saying that everything you have here on the record from Dr. Ransom and the other doctors and leaders from this area is not only true, but in fact we could add a lot more to them, and that this is very, very important legislation, it means a great deal to us in Texas generally and in Bexar County particularly. And I, for one, would be most grateful to you for your favorable consideration of this measure.

I want to express my personal admiration of this committee. I know what you have done. And I know some of the very intricate bits of legislation you have had here. But I want to thank you for what you have done already. And I know that many, many of our activities in Texas certainly would not have been possible had it not been for the realistic confrontation on the part of committees like this one, particularly in the past, to help us through grants-in-aid and a shared-cost basis for construction of hospitals and medical schools and the facilities that are needed. We have had a shortage. We were able to sell the legislature, which was pretty hard to sell at a time when we were having a financial crisis. So I think you gentlemen can understand that that legislature was a very hard body to sell, and when it reached the point that it was willing to authorize the construction of a third branch of the medical school of the University of Texas, it must have been because we really had the facts, and the shortages there were obvious.

So I want to thank you very much for your time and your patience. And if there are any questions you feel I can answer, I will try to answer them, though I must say in all fairness that some of the written material that has been sent here has been prepared by experts like the chancellor of the university and the men who head this medical foundation in my hometown.

But I am very grateful, Mr. Chairman.

The CHAIRMAN. Let me say to our colleague that we appreciate your interest in the legislation and the problems involved here. We have had a great amount of testimony, a lot of testimony from highly qualified experts in the field and from doctors and deans and a lot of other people throughout the United States. I am sure there could be a lot of questions asked by the members.

Is there anyone who has any questions?

Thank you very much. We appreciate your taking the time from your busy schedule and expressing your feelings with respect to this legislation.

Mr. GONZALEZ. Thank you, Mr. Chairman, and members of the committee.

The CHAIRMAN. Dr. Martin Lichterman?

Dr. Lichterman, we would be glad to have your presentation.

STATEMENT OF DR. MARTIN LICHTERMAN, EXECUTIVE SECRETARY, NEW ENGLAND BOARD OF HIGHER EDUCATION, WINCHESTER, MASS.

Dr. LICHTERMAN. Mr. Chairman, and gentlemen of the committee, I am Dr. Martin Lichterman, executive secretary of the New England Board of Higher Education, an interstate agency with headquarters in Winchester, Mass.

I deeply appreciate the privilege and opportunity of coming before your honorable committee to testify in favor of H.R. 4999. I should like to state at the outset that I am not a physician.

But my interest in the legislation now being considered by this committee arises from the work that has been done by the agency with which I am connected. The New England Board of Higher Education is an interstate agency established under a compact approved by Congress in 1954 and by legislation enacted by the six New England States. We are thus an official agency of the States and we are supported by appropriations on a per capita basis by each of the New England States. Our board consists of 18 members, both laymen and educators—3 from each State who are either appointed by the Governor or who serve ex officio, and I might add that they are distinguished members of their respective communities, and include 5 of the 6 university presidents in the region, a former dean of one of our medical schools, and many other outstanding citizens.

From its inception, one of the major objectives of the New England Board of Higher Education has been identical to those of the proposed bill—

to increase the opportunities for the training of physicians, dentists, and professional public health personnel and for other purposes.

While we have been concerned with improving and extending the opportunities for the youth of New England for higher education generally, we have been especially concerned with stimulating and increasing the opportunities for education in medicine and dentistry. As we have surveyed the region's manpower needs in specialized fields, we have viewed with increasing concern the declining number of New England students entering the fields of medicine and dentistry.

While New England at present enjoys a favorable position as compared to the United States at large in terms of the ratio of physicians per 100,000 population, 155 per 100,000 in contrast to the national average of 118, in actuality three of our States are below the national average and one, Maine, has a ratio of physicians to population that is among the lowest in the Nation. Far more significant is the fact that of the six New England States only one, Vermont, ranks above the national median in the number of first-year medical students per 100,000 population. Of the 50 States and the District of Columbia, Vermont ties with Wyoming for 18th place; Massachusetts ranks 26th; Connecticut 33d; Rhode Island 44th; New Hampshire, 46th; and Maine is in last place at 51st. Our future supply of physicians, therefore, is very much in doubt.

In seeking ways and means of providing our region with adequate numbers of physicians and dentists, the New England Board of Higher Education, after considerable study, recommend the establishment of additional publicly supported medical and dental schools and the establishment of programs which will encourage interest in medical and dental education and provide financial assistance to prospective students. For this reason we are particularly interested in parts B and C of the proposed act dealing with grants for construction of medical, dental, osteopathic, and public health training facilities, and scholarship grants to schools of medicine, osteopathy, and dentistry. The needs of our region and the Nation at large will be met only by the expansion and rehabilitation of our existing medical

schools and development of new ones and by a scholarship program which will ease the cost of education of the student and, at the same time, help to meet the necessary increased cost of education to the institutions enrolling the additional students.

This committee has already heard testimony from distinguished New Englanders, as well as a great many of other people from all parts of the country, including Gov. John Dempsey, of Connecticut, and Dr. George A. Wolf, Jr., executive director of the Tufts-New England Medical Center and vice president for medical and dental affairs of Tufts University, as to the importance of H.R. 4999 to New England. It has also, I believe, received a letter from the deans of Boston's three schools of medicine stating their strong support of the pending legislation. I do not wish to impose on the committee's time by repeating what has already been stated by these gentlemen. I would, however, like to summarize what the impact of grants for construction of facilities would be on New England's existing medical schools.

The University of Vermont's College of Medicine would be able to increase its class size from 50 to 75, but only with substantial Federal assistance. The three Boston area medical schools would be able to expand sufficiently as a result of the legislation to equal one entirely new medical school. The Tufts University School of Dental Medicine which has been the largest single source of dentists for the whole region, not only would be able to increase its enrollment of dental students but would be able to develop an entirely new program for training ancillary personnel that might well be able to supply all of New England's dental needs for the foreseeable future. Harvard Dental School would be able to increase its enrollment by 50 percent.

As to new schools, the situation is even more dramatic. The State of Connecticut has already authorized the establishment of a medical-dental school as part of the State university and an appropriation of $2 million was authorized at the last session of the Connecticut General Assembly to commence planning and construction of the school. Grants for construction provided under H.R. 4999 would mean that this new facility would be built and put into operation at an earlier date than is at present contemplated, and perhaps an even larger school could be established. The Commonwealth of Massachusetts is also considering the establishment of a medical school as part of its State university and a recess commission of the general court has unanimously recommended the establishment of such a school, and legislation is now before the general court. There is no doubt that Federal aid would be a tremendous incentive to the construction of a new medical school.

Brown University's plans for establishing a 2-year college of basic medical science will probably be unable to get off the ground without sustantial Federal assistance.

Finally, I would like to mention the needs of New England's schools of public health. These institutions at Harvard and Yale Universities train men and women for national service. They are in desperate need of additional facilities. Harvard, if aided in the construction of these facilities, could increase its enrollments by as much as 35 percent, and Yale, which has at present a very small program in public health could double its enrollment, were additional facilities provided.

In short, then, the New England Board of Higher Education is persuaded that one way, and an effective one, of increasing the opportunities for education and training of physicians and dentists and public health personnel, and thus assuring adequate health care for our citizens, is new grants for the construction of teaching facilities as provided for in the proposed bill H.R. 4999.

GRANTS FOR SCHOLARSHIPS

Quite as important, I believe, as the provision of additional physical facilities for the education of medical students is the need for additional funds to finance medical students education. Examination of the national, as well as the local picture in New England, reveals a striking paradox. On the one hand, we say that we need more medical schools, and on the other hand we look at the figures provided by such institutions as the Association of American Medical Colleges—and I have heard this from the deans of medical schools themselves—and we find that over the past decade our medical schools have experienced a very real decline both in the overall quality and the quantity of applicants for admission. We have seen a dramatic rise in the total number of students in our colleges and universities, yet there has been a fall in the number of applicants for medical and dental schools. What explains this paradox? The answer is a rigorous competition among many professional disciplines for a supply of outstanding talent.

A comparison of medical school enrollments with graduate enrollments in scientific fields reveals a striking contrast. Between 1953–54 and 1959–60 medical school enrollments increased by 7 percent whereas enrollments in certain selected science fields increased by 36 percent.

Admittedly, the increase in enrollments in medical schools were very sharply limited by inadequate facilities in part, but this alone does not account for the tremendous contrast in growth of other fields. In the biosciences alone the increase in graduate students was 23 percent; in mathematics and statistics by 110 percent; and the physical sciences by 34 percent. The demands, of course, of our society, our technology, our national security certainly have explained a good part of the growth in these other fields.

But what this means is that many students who might well have gone into medicine as a career are choosing other fields. To all of us who are concerned with attracting an adequate supply of talented young men and women into medicine, this must be of great concern. The reasons for this shift, I think, are relatively simple. I have stated some already. But I think the first and most important is the hard fact of the economics of professional education. The average medical student has to pay more than twice as much as the average graduate student for his education. Only one-tenth—and I imagine you have heard this figure before, but I repeat it, one-tenth of all medical students receive any scholarship aid, compared to one-quarter of graduate students in the arts and sciences.

The average stipend of the medical student who does receive aid is $500 a year compared with an average of $2,000 per year for the arts and sciences graduate student. Thus, as the Association of American Medical Colleges points out, if one combines the fact that

the medical student, as contrasted with other graduate students, has to pay twice as much for his education at the same time he received one-quarter as much stipend income, it becomes clear that there is an 8 to 1 fiscal ratio of income and expense working to persuade the the college student to enter graduate school rather than medical school.

I think it is clear that financial assistance must be given to students in the health sciences comparable to those in other graduate fields. We need physicians, and dentists, and the other health science personnel. I reject the proposal, I must say respectfully, that the financial problem can be solved by a loan plan. The Association of American Medical Colleges has pointed out that 33 percent of the 1959 graduating class of medicine had a loan liability directly related to their medical education averaging $4,258 per student. An expanded program of loans rather than scholarships will merely mean that more medical students will stagger under the burden of loans and more will be asked to tackle the long, arduous grind of 4 years of medical school, 2 or 3 years of internship and residency, all before they have any assurance of beginning to earn income and during which they will pile up an ever-growing burden of debt.

It has been argued that indebtedness of this magnitude should not be of concern to a person whose future earning power is as high as that of a physician. A more realistic view, however, would seem to be that the prospect of (1) substantial indebtedness at the time of graduation, (2) the prospect of 2 to 4 additional years of study at low income or no income at all, and (3) the high cost of setting up practice at the end of a period of study—all of these factors have combined to place medicine in an extremely poor competitive position as compared to related graduate disciplines.

Not the least of the problems of the medical schools in attracting highly qualified students in competition with the graduate schools of arts and sciences is the fact that many students in all fields as you know, today marry early and have children. The prospect not only of financial support for their doctoral studies, but of immediate and lucrative employment upon the completion of their professional training, attracts students to doctoral programs in the physical and natural sciences, engineering and mathematics, in preference to medicine and dentistry.

Present patterns of financing the education of medical students tend to "select out" people from the lower income groups, as one of the gentlemen of the committee mentioned earlier this morning. Hence, the medical schools are denied access to a valuable reservoir of talent, the children of lower income groups of our Nation.

Increased investment of Federal and State funds in student aid programs will help to tap this reservoir and at the same time contribute to a more heterogeneous student mix in the medical schools.

The need for scholarship assistance is a very real and pressing one today. It is not one of 6, 8, or 10 years from now when the new medical schools are constructed or when the existing schools are expanded.

Again, I was happy to hear this point made earlier here this morning.

Students in our high schools and colleges are planning their careers, and knowledge that a Federal scholarship program for medical and dental education exists will encourage talented students to enter these fields. Students already enrolled in medical and dental schools would receive much-needed assistance and encouragement. In sum, then, the New England Board of Higher Education is persuaded that the provisions of bill H.R. 4999 if enacted into law, would be a major step forward toward meeting the needs of doctors, dentists, and professional public health workers.

We respectfully urge that the provisions of H.R. 4999 be enacted, because, as we have stated, there is a need for more health service personnel. And this need can be met by grants for expanding existing schools, establishing new ones, and providing scholarships to assist both the student and the institution in defraying the costs of education.

Thank you.

The CHAIRMAN. Thank you very much, Doctor, for your statement and the information that you have given to the committee on this highly important problem.

Mr. ROGERS of Texas. May I ask one short question?

I assume you are speaking for the group on higher education which is an interstate compact group.

Mr. LICHTERMAN. Right.

Mr. ROGERS of Texas. And I also understand that you have concluded that this is a proper Federal office?

Mr. LICHTERMAN. Oh, yes.

Mr. ROGERS of Texas. In other words, the responsibility that is assumed in this field?

Mr. LICHTERMAN. Well, we have also urged the individual States to assume part of the burden of financing scholarships.

Mr. ROGERS of Texas. That is the next question. Have you reached the conclusion that it is a proper Federal office because the States have not been able to meet the needs, is it an economic situation?

Mr. LICHTERMAN. Yes, sir. We feel that the States have done a great deal. We do feel that some of the States are capable, in our region certainly, of doing more, and we have urged them to do more, and they are taking such steps. But this alone we do not feel will meet the problem.

Mr. ROGERS of Texas. And do you think that rather than to create Federal schools, if this is a Federal office, that the problem can be answered by making grants to State schools and nonprofit organizations in the field?

Mr. LICHTERMAN. Certainly I would not expect Federal schools to be established, sir.

Mr. ROGERS of Texas. Why not, if it is a Federal office?

Mr. LICHTERMAN. Well, I think that this certainly has not been part of the tradition and pattern of our educational system in this country. And I think it certainly is not desired by anyone. I can only speak for our own region, but I don't think that is any indication that anyone would want that.

Mr. ROGERS of Texas. What you mean is that money ought to be furnished by the Federal Government, but that the Federal Government should not operate the schools.

Mr. LICHTERMAN. Yes, in the pattern of many other acts of this Congress.

Mr. ROGERS of Texas. You do think, though, that this money ought to be made available to all public schools and to all private or religious schools so long as they are nonprofit organizations?

Mr. LICHTERMAN. Sir, I would say "Yes." We need health service personnel, all the medical schools are training them.

Mr. ROGERS of Texas. You want doctors and public health personnel, you don't care where they came from?

Mr. LICHTERMAN. Yes, thank you, sir.

The CHAIRMAN. Any further questions?

Thank you very much, Doctor.

The Honorable Edward C. Mazique.

Mr. Mazique, we are glad to have your presentation as the medical representative of the National Medical Association.

STATEMENT OF DR. EDWARD C. MAZIQUE, REPRESENTATIVE FOR THE NATIONAL MEDICAL ASSOCIATION ON MEDICAL LEGISLATION

Dr. MAZIQUE. Mr. Chairman, and honorable members of the committee, thank you for the opportunity of appearing before you today.

I am Edward C. Mazique, a practicing physician in the District of Columbia for the past 20 years. At the present time I have been delegated as medical representative on legislation by the National Medical Association.

For those of you who may not be familiar with the National Medical Association, it is a national medical organization whose membership comprises essentially all of the Negro physicians in America, which number about 5,000.

The National Medical Association wholeheartedly endorses a bill H.R. 4999 designed to increase the opportunities for the training of physicians, dentists, and professional personnel, and for other purposes, and strongly urges its approval by this comimttee and favorable recommendation to the Congress.

There is an immediate need for the erection of medical health facilities such as hospitals and medical schools as well as an expansion of those that are presently in existence.

Similarly more doctors and allied medical personnel appear imminent in America today where we are confronted with the problems of an exploding population that is destined to reach 225 million people by the year 1975. This is further intensified because of the many new challenges that we face in the medical care program such as urbanization, housing, industrialization, and complexities and frustrations that necessitate the creation of such new health agencies as the Bureau of Environmental Health that must cope with the problems of water and air pollution brought about by increased industrialization; problems in radiation and space brought about as a result of advanced knowledge in science and technology.

The shortage of medical manpower is so crucial in America that it is reported in some rural areas, there is only 1 doctor per 6,000 population. The average number of graduates from all of the medical schools

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in the United States total approximately 7,000 annually. There is an immediate need for 12,000 medical graduates annually.

While medical education is the basis for good health services, it receives only 1 percent of the total expenditures of the Nation despite the fact that it performs a most vital function in any society—that of the preservation of health and the extension of life.

There has been no drastic change in the physician-patient ratio in the last quarter of a century despite a rapidly expanding and more complex society. For example, in 1950 there were 143.4 physicians for each 100,000 persons in the United States. Today the ratio is 140.7 and by 1975 at the present rate of training, it will be only 133. The ratio for dentists for each 100,000 persons was 59 in 1930. Today it is 56 and will be approximately 50 by 1975 unless dental schools and students substantially increase. A recent study has shown the need for 20 new medical schools.

One of the basic reasons for physician shortage is economic. Some late statistical data indicate that 40 percent of all medical students now come from that 10 percent of the families with the highest income. It is, therefore, obvious that scholarship grants are indicated to schools of medicine, dentistry, and osteopathy in order to supplement the meager wealth of meritorious students with potentials of becoming good scientists.

The low-income group in our society may serve as an untapped reservoir to fill the vacuum in the medical manpower shortage.

In an effort to assure rapid recruitment and equal rights for all applicants who may become recipients of such funds and of such designated medical and health facilities as set out in bill H.R. 4999, the National Medical Association urges that this committee seek the proper terminology whereby it will be assured that individuals may fully utilize all such designated facilities without regard to race, religion, or previous condition of servitude.

It is difficult, Mr. Chairman, for me to tell you exactly the language that we seek and we are asking that you might put in here. But the essence of such language might be as follows: that this bill, H.R. 4999, is herein submitted to improve the health and medical services of our Nation. The recipients and participants shall share and share alike in its program, both in its activation as well as in its benefits to enhance the health standards of America and to assure the availability of good health and training opportunities to all of its citizens.

Finally, our association requests that consideration be given in this bill for the expansion of medical libraries. Good library facilities are as essential to a program of medical education as its clinics, classrooms, and laboratories.

Thank you very much, Mr. Chairman, for the opportunity of appearing before you today.

The CHAIRMAN. Doctor, thank you very much for your statement and your suggestions with reference to this legislation.

Mr. Rogers, any questions?

Mr. ROGERS of Texas. I only want to compliment the doctor on his fine presentation.

The CHAIRMAN. Mr. Younger?

Mr. YOUNGER. Doctor, do you represent the National Medical Association?

Dr. MAZIQUE. Yes.

Mr. YOUNGER. What is the reason for having two associations, the AMA and the National Medical Association?

Dr. MAZIQUE. There is a little history behind that, Your Honor. That was brought about because of the discriminatory practices at one time by the State component members of the American Medical Association whereby they failed to permit Negro physicians to become members.

Mr. YOUNGER. How long ago was this?

Dr. MAZIQUE. This was before 1895, the time when our Association was organized.

Mr. YOUNGER. But since then they have taken in Negro members?

Dr. MAZIQUE. In recent years essentially all of the States societies of the American Medical Association will take in Negro members. However, the matter of doing it is left entirely with the States. Physicians in each State must first become a member of this State constituent society; let's say in the State of Mississippi, and then if they become a member of that constituent organization they are permitted to become a member of the American Medical Association. So you see many Negroes are not members of the American Medical Association, for this reason. Predominantly most of them may now become members. This transition, I would say, has taken place within the last 10 years.

Mr. YOUNGER. What medical school are you from?

Dr. MAZIQUE. I am from Howard University in Washington, D.C.

Mr. YOUNGER. Did you have any difficulty in getting your first choice of medical schools, or did you have to go to Howard?

Dr. MAZIQUE. I had no difficulty at the time. The time that I came to medical school was in 1937. The basic factor facing the Negro at that time was strictly economic. He had only a choice of two medical schools to attend, and that was Howard University and Meharry in Nashville, Tenn. His choice was practically limited to only two institutions. But the competition was not so keen because the economic factor played such a great part. Coming from lower income brackets primarily and basically, the matter of just having been able to attend medical school with training was enough. So in those days it was not too difficult to gain entrance or to qualify so long as you were prepared academically and financially.

Mr. YOUNGER. What is the situation today in the medical schools?

Dr. MAZIQUE. Today it is a different picture altogether.

For example, at Howard University and Meharry, two-thirds of all the Negro physicians come from these two schools. However, the medical opportunities have opened up in most of the States, so that you get a sprinkling of students in many other schools throughout the various States. This is especially true up North, and in a smaller degree down South. For example, the University of Arkansas as far back as 1948 graduated a Negro physician. This antedated the Little Rock incident. So that actually it had been going along as far back as that. But opportunities have increased tremendously, and yet there is very much yet to be done.

This is in connection not only with schools but hospitals as well.

Mr. YOUNGER. Thank you, Mr. Chairman.

The CHAIRMAN. Any further questions?

Doctor, let me thank you on behalf of the committee for your statements here upon this important question.

Dr. MAZIQUE. Thank you very much, Mr. Harris.

The CHAIRMAN. This will conclude the hearings on the legislation. The record will remain open for 1 week for the inclusion of further information that is to be supplied or any further statement that will be appropriate that anyone wants to include in the record on this subject.

The committee will adjourn.

(The following material was submitted for the record:)

STATEMENT SUBMITTED BY HON. GEORGE M. RHODES, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Congressional hearings have just been held on a bill, H.R. 4999, entitled, "Health Professions Educational Asistance Act of 1961." This is the most important piece of medical legislation to be considered by Congress since the acts which established the National Institutes of Health. Indeed, in certain respects, this bill could have more far-reaching significance both for medicine and for the Nation than the latter, since it is designed to meet a more urgent fundamental need.

The purpose of H.R. 4999 is to stimulate the establishment of new schools of medicine, to encourage the expansion of enrollments in existing medical schools, and to enable larger numbers of capable young men and women to study medicine irrespective of their financial status. To achieve these purposes the bill makes two important provisions, namely, grants on a matching basis for construction of educational facilities and scholarship grants equal to $1,500 multiplied by one-fourth the number of students in each class. Each scholarship provides, in addition, $1,000 to the medical school to help defray the cost of the student's education.

The critical need for more physicians is now unquestioned. Over the past decade there have been no fewer than five thoroughly documented studies, prepared by recognized experts, which show clearly that our Nation faces a serious shortage of physicians and dentists unless we take energetic corrective measures immediately.

It has been demonstrated, for example, that by 1970 we shall have to graduate 3,500 more physicians than were graduated in 1960 in order just to maintain our present ratio of physicians to a population (1 to 720). And were it not for the immigration to our country of a large number of foreign-trained physicians, representing in 1958, 17 percent of the new physicians entering practice, that ratio would already have dropped significantly. This fact in itself not only highlights this problem, but provides a wry commentary upon our judgment in meeting the health needs of our people. One might well ask why a country such as ours, with all its wealth and industrial might, should choose to provide billions of dollars for foreign aid programs of various kinds and yet be dependent upon other nations with far less economic resources for the education of those additional physicians we urgently require to meet the minimum needs of our own people.

The genuine need for this legislation has been documented further by certain facts related to the recruitment of medical students. Over the past decade there has been a serious decrease both in the number and quality of college graduates applying for admission to medical schools, despite the fact that the total number of college graduates has increased. In 1948, for example, the number of medical school applicants represented 6.6 percent of the college graduates. In 1959, this figure had dropped to 3.9 percent. The overall failure rate in medical schools has been increasing in recent years as certain schools have had to fill their classes with candidates who are not well qualified.

There are undoubtedly many diverse factors responsible for these sobering statistics regarding the recruitment of medical students, but unquestionably the most important among these is the great cost of a medictal education. The average cost to each student of 4 years of medical education, based upon data from the 1959 medical school graduating class, was more than $11,600. It is, therefore, not surprising to find that more than half the 1959 medical graduates had to borrow substantial sums to complete their education and that one-third

of the total group had an average debt of $4,258. Upon completion of his basic medical education the young physician must take at least 1 year of internship, and, if he desires a career in a specialized field of medicine, 3 to 5 additional years of residency training during which time his earnings will not provide even a bare subsistence. It should come as no surprice, therefore, to learn that our physicians are coming mainly from the families with substantial economic resources. In 1959, 45 percent of families in the United States had an annual income under $5,000, but they contributed only 14 percent of the 1959 medical school graduating class. However, 43 percent of this same class came from the 12 percent of U.S. families with an annual income of $10,000 or more.

In addition to these important financial considerations which have deterred many outstanding college graduates from entering upon the study of medicine, the situation has been further worsened by the development in recent years of many intellectually stimulating career opportunities in science for which generous scholarship provisions are available.

The Federal Government now provides fellowships for every field of higher education in the sciences except medicine. Through its various agencies—the Department of State, the National Science Foundation, the Office of Education, and the National Institutes of Health—approximately 10,000 predoctoral fellowships are provided each year. These fellowships afford the student not only free choice of the institution in which to pursue his study, but also provide full tuition, a stipend plus a dependency allowance, a travel allowance, and in some instances, an additional subsidy to the institution. It should be obvious that the college student with limited economic resources who is interested in science may not only select a career which will offer prestige and financial security, but may do so under circumstances which will provide adequate support for his entire education as well. It would indeed be small wonder if a student desiring such a career in the sciences were to choose medicine in contrast to a science in which such fellowships are available.

We have with good reason taken pride in the high standards of medical care which we have been able to provide, and we have developed over the past decade, especially with the aid of the National Institutes of Health and the funds that Congress has generously appropriated for this purpose, the finest overall general medical research program in the world, one that is attracting increasing numbers of foreign individuals here for research training. The quality and high standards of these activities are largely dependent upon the maintenance of high quality personnel and the attraction of the best qualified college students into medicine. It should be obvious that if these college students are deterred from entering medicine, it will be only a matter of time before the standard and quality of both medical care and medical research, as well as medical education, will gradually deteriorate.

All of the many persons who testified before the committee in the hearings on H.R. 4999 were enthusiastically and overwhelmingly in support of the full provisions of the bill except for the spokesmen of the American Medical Association. They, to be sure, supported that portion providing construction grants for educational facilities, but refused to take a positive position on the matter of scholarships, and instead, spoke about the interest of the American Medical Association in developing a program of loan assistance.

It should be obvious even to the American Medical Association that augmentation of loan funds will not meet the need of many well-qualified students. Many schools and State medical societies already have substantial loan funds, but the experience of past years has demonstrated their inadequacy to increase the attractiveness of a medical career because of the high cost to the student. Substantial increases in private scholarship and loan resources have been provided in the past decade, but it is apparent that these efforts to make adequate support available through private means have not met the problem, and it is for this reason that the importance of the scholarship provisions in the bill becomes even more significant.

There has been concern in some quarters that Federal aid to medical education may bring about undesirable governmental controls. The experience of medical schools with respect to Federal participation in support of medical research over the past decade gives no substance to these fears. Not only has there been no interference with research, but it is now generally agreed that this type of aid has been of tremendous benefit to the schools. There is therefore good evidence and experience to demonstrate that support from the Federal Government can be administered without interference in academic affairs

and without the introduction of restrictive controls. Furthermore, there is no provision in this bill which would in any way create such undesirable factors.

Has not our sense of values become distorted when we as a nation can provide billions of dollars for foreign aid programs of all kinds and for projects concerned with reaching the moon and yet be reluctant to provide even a small fraction of this sum for critically urgent measures to maintain the health of our people? The security and integrity of our Nation are more dependent upon their health than on any other single factor. We have long had a real concern for the welfare of the individual citizen and have derived deep satisfaction from meeting his need in a humanitarian way. Why should we then knowingly deny ourselves these measures to strengthen our capabilities and to meet our traditional obligations, and why should we afford our youth opportunity to achieve and maintain his proper role in our society in every field but medicine?

This matter is of deepest concern to our people. While passage of this bill will not entirely resolve the problem, it will be a great step toward its ultimate solution.

MICHAEL E. DE BAKEY, M.D.,
Houston, Tex.

STATEMENT OF HON. JOHN F. SHELLEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. Chairman, it is with much pleasure that I present to your committee my support for H.R. 4999, which if enacted, will increase the opportunities for training of physicians, dentists, and professional public health personnel in the United States.

A number of Government and private studies in this country have been undertaken which demonstrate conclusively that the quantity and quality of medical and dental care programs, must be expanded in the immediate future if the demands of our growing population and their medical and dental needs are to be met. Statistics in these studies abound pointing to the shortage of medical and dental manpower at present. These figures indicate clearly the situation in the future will be much more critical. President Kennedy's health message to the Congress last year succinctly outlines this critical manpower shortage in the medical, dental, and allied professions.

Mr. Chairman, the enactment of H.R. 4999 in providing for grants for construction of medical, dental, osteopathic, and public health teaching facilities, and scholarship grants to accredited schools of medicine, osteopathy, and dentistry, will be a substantial step on the part of the U.S. Congress in discharging our obligation to meet the health and dental needs of our Nation.

Mr. Chairman, the need for Federal assistance to the Nation's medical and dental schools was recently dramatically brought to my attention by the plight of the long-respected dental college in San Francisco, the College of Physicians and Surgeons.

The College of Physicians and Surgeons has maintained a reputation over the years of being one of the finest dental schools in the country. However, because of the obsolescence of its existing physical facility, the school's academic accreditation currently is in jeopardy and, in fact, there are indications that local authorities may condemn the present building as unsafe for student occupancy.

As I understand it, school authorities have sought assistance from governmental sources without success. They have succeeded, however, in raising from private sources over the last several years about $1.5 million for the building, and the alumni has pledged an additional million dollars which will be contributed over an extended period of time. In addition, the dental students now at the school have pledged themselves to contribute $222,000 over a period of 10 years. A new school, however, will cost in the neighborhood of $5 million to $6 million, and it is unlikely that the remaining funds can be raised from voluntary contributors.

The college has completed negotiations to become a school of the University of the Pacific, which will assure the school's accreditation status if a new building can be constructed. Ground space for the building has been arranged at the Presbyterian Medical Center, and money now appears to be the only substantial block to the school's continuing success.

At the present time, the 4 existing dental schools in California are graduating from 275 to 300 dentists a year, but the State is licensing from 500 to 600 dentists a year. It is obvious, therefore, that California is drawing heavily on the schools of other States to provide the dentists it needs. I am sure I need not recite to you the figures relating to the rapid increase in population in California.

As indicated above, the College of Physicians and Surgeons has raised the amount which would be necessary to match the Federal funds which would be provided if H.R. 4999 is enacted, and construction of a new and expanded facility could be begun immediately.

To underscore the importance with which the community views this pressing need in San Francisco, I submit to you the following resolution approved by the Board of Supervisors of the city and county of San Francisco:

"*Resolved*, That the Board of Supervisors of the city and county of San Francisco do hereby unqualifiedly endorse H.R. 4999 and S. 1072, to provide matching Federal funds for construction and alteration of medical and dental schools, and do hereby urge the Congress to enact said measures into law at the earliest possible date in order that the people of the United States may have the advantage of the benefits inherent therein; * * *."

In conclusion, Mr. Chairman, it is my hope that this bill will be enacted into law during this session of Congress, as a needed step forward in maintaining and promoting the health and dental needs of the people of our country.

STATEMENT SUBMITTED BY HON. JOHN BRADEMAS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF INDIANA

Mr. Chairman, I appreciate the opportunity to testify in support of legislation which would help the United States meet the urgent need for educating more physicians, dentists, and professional public health personnel.

As you know, I have introduced a bill, which is one of several bills now under consideration by your committee, designed to provide more assistance for the construction of medical and dental schools in our country.

The evidence is clear that if we are going to maintain the existing ratio of physicians and dentists to our population, we shall have to train many more of both. The figures show that we must in the next 10 years raise the admissions to medical schools by nearly 50 percent and almost double the number of students entering dental schools.

And existing schools of medicine and osteopathy and dentistry just do not have the capacity to train the 3,800 more physicians and 3,300 more dentists we will need in the next decade.

Simply to keep pace with the growth in population we must build an estimated 20 new medical schools and 20 new dental schools by 1970.

Recent testimony before the Education and Labor Committee, on which I serve, has made clear the inadequacy of the physical facilities of institutions of higher learning generally in the United States. It was my privilege during the months of the recess to serve as chairman of a bipartisan Advisory Group on Higher Education.

Our extensive discussions with leading college and university administrators convinced the five members of the Advisory Group that the American university community is united in agreement that a Federal program to help our colleges and universities finance the building of classrooms, libraries, and laboratories is essential. I am convinced that there will be overwhelming bipartisan support in Congress this year for the college academic facilities bill.

But, Mr. Chairman, we cannot neglect the need for medical and dental schools. That is why I strongly support the provision of Federal funds, on a matching basis, to help the expansion, construction, and remodeling of the physical facilities of medical, dental, osteopathic, and public health teaching facilities.

I may say, Mr. Chairman, that I have discussed this bill with a representative of the American Medical Association here in Wahington and the AMA favors the proposal. Moreover, I have discussed the bill with doctors and dentists in my own congressional district and have learned they support it as well.

It also seems clear that, as Dr. Gerald D. Dorman, a member of the board of trustees of the AMA, told your committee some days ago, "medical school construction provisions should be given first legislative priority" in any program of Federal assistance to medicine.

In conclusion, Mr. Chairman, let me say that we must continue to maintain high standards of medical education if Americans are to enjoy the best medical attention in the world.

I am certain the passage of this medical and dental school bill will help insure that goal.

HOUSE OF REPRESENTATIVES,
Washington, D.C., February 16, 1962.

Hon. OREN HARRIS,
Chairman, House Committee on Interstate and Foreign Commerce,
Washington, D.C.

MY DEAR MR. CHAIRMAN: This is to urge favorable action by the Committee on Interstate and Foreign Commerce with respect to H.R. 4999, the Health Professions Educational Assistance Act.

Among the many excellent features of this bill is the 10-year program of grants for the construction of medical, dental, and public health teaching facilities. This particular phase of H.R. 4999 is of the greatest importance to Rhode Island, as I know it is to the many other areas of the country where such schools exist or are in the planning stage.

As you are aware, Brown University of Providence, R.I., approved the establishment of a 2-year program in the basic medical sciences in June of 1961. The program will take the form of a 2-year medical school, similar to that described in H.R. 4999.

We in Rhode Island are proud of the outstanding contributions which Brown University has made to the cultural and professional life of our State. Brown, along with our other schools of higher learning: Providence College, the University of Rhode Island, Rhode Island College, Bryant College, Salve Regina College, and others, has enriched and benefited the community beyond measure. For these reasons, I am more than pleased that Brown has seen fit to further expand its energies and efforts to include the field of basic medicine.

However, it will be impossible for Brown University to achieve this worthy goal through private funds alone. Federal help is needed, and that help is adequately provided for in H.R. 4999. With such assistance, plus the dedication and hard work of its faculty and students, I feel certain that Brown University will soon have one of the finest schools of basic medicine in this Nation.

Therefore, Mr. Chairman, it is my sincere hope that this bill will be favorably considered by your committee, passed by the Congress, and signed into law by the President.

With best wishes, I am,

Yours sincerely,

FERNAND J. ST. GERMAIN,
Member of Congress.

HOUSE OF REPRESENTATIVES,
Washington, D.C., January 31, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce, U.S. House of Representatives, Washington, D.C.

DEAR CHAIRMAN HARRIS: This brief letter is written to express again my personal interest in H.R. 4999, upon which you are now conducting hearings.

Dr. Donald G. Anderson, president of the American Medical Colleges, and a distinguished constituent of mine, has already appeared before your committee. I could not improve upon his presentation, which I find very persuasive.

I know that this matter has your careful attention, and I am hopeful that this much-needed legislation will be forthcoming from your committee at an early date.

Very sincerely yours,

JESSICA MCCULLOUGH WEIS.

HOUSE OF REPRESENTATIVES,
Washington, D.C., January 31, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: The Woman's Medical College of Pennsylvania has written to me in strong endorsement of H.R. 4999, a bill which I also support.

The president and dean of the college, Dr. Marion Fay, pointed out that "the medical schools of the country are greatly in need of financial assistance. We have had generous grants for research, evidence of which are the new research facilities which you visited. But teaching facilities are urgently needed if the medical schools of the country are to keep up their teaching standards and also be able to add to the numbers of graduates."

I would appreciate it if this information would be made part of the record in your hearings on H.R. 4999.

Sincerely yours,

KATHRYN E. GRANAHAN,
Member of Congress.

HOUSE OF REPRESENTATIVES,
Washington, D.C., January 26, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: In connection with the hearings your committee is presently conducting on H.R. 4999 and related bills, I am submitting to you herewith a statement furnished me by the University of Miami School of Medicine, Coral Gables, Fla.

I will appreciate your having this statement incorporated into the record of your hearings.

In any legislation which your committee may recommend to the House, I respectfully request that the University of Miami School of Medicine will be included in its provisions. You will note from the attached statement, the university is without a permanent medical educational facility. In spite of this handicap, the medical school has become accredited by all accrediting agencies and has made an excellent record, in its short history, as a progressive and productive school for medical training.

If the committee feels there is any additional data it might need in order to consider the unique circumstances under which the school of medicine is operating, I would welcome an opportunity to obtain this for you.

Sincerely,

DANTE B. FASCELL,
Member of Congress.

STATEMENT OF UNIVERSITY OF MIAMI SCHOOL OF MEDICINE REGARDING THE FACT THAT IT HAS NEVER HAD A PERMANENT MEDICAL EDUCATIONAL FACILITY

The University of Miami, an independent nonprofit institution of higher learning, established a 4-year medical school which opened in the fall of 1952 under the most difficult financial circumstances.

In 1952 Florida was the only State in the South, and one of the few States in this country, without a medical school and, therefore, was in dire and critical need for a medical educational facility within the State. The Florida Legislature recognized the fact that Florida men and women were unable to obtain medical education, as medical schools of other States found it almost impossible to accept Florida residents seeking medical education. In 1951, in order to encourage the establishment of a medical school in the State of Florida, the legislature enacted into law a bill appropriating a $3,000 per year subsidy for each Florida resident enrolled in the first medical school established in Florida.

In order to become the first established medical school in Florida, the University of Miami undertook to qualify for the subsidy set forth above, and due to a lack of funds for construction of a medical educational building the University of Miami leased a building located on the reservation of the Veterans' Hospital in Coral Gables, Fla., for the purpose of housing its preclinical departments on a temporary basis. The University of Miami School of Medicine has continued to operate its preclinical departments in this outmoded building for the past 8½ years since its inception. In spite of the inadequacy of these facilities, the University of Miami School of Medicine has become accredited by all accrediting agencies and has made an excellent record in its short history as a progressive and productive school for medical training. This temporary building for preclinical medical education has continued to be used because of the lack of funds required to build a permanent facility.

The University of Miami having no access to tax moneys of any kind or description, other than the State subsidy mentioned herein, is unable to supply funds for this needed facility except through gifts and donations.

In 1956 the University of Miami qualified for a research facilities construction grant with the matching portion being provided by the taxpayers of Dade County, Fla. This building, which is now complete and occupied, cost approximately $2,250,000 for construction, less than half of this money having come from the Federal Government and the remainder from the taxpayers of Dade

County, Fla. This building is located at the site of the county-provided clinical facilities 7 miles distance from the temporary preclinical building.

Dade County is making available sufficient land adjoining the research building aforementioned for a permanent educational building for the University of Miami School of Medicine, which building is a critical need for the adequate development and continuation of the University of Miami School of Medicine and will give it a permanent facility for the first time since the establishment of the medical school.

This statement is made for the specific purpose of showing that the University of Miami School of Medicine is in a unquie position among the 85 accredited medical schools in the United States, in that it is the only school of medicine in the United States, to our knowledge, that has never had a permanent medical educational facility. The only exception to the above statement could possibly be the University of Utah, a State-supported institution, which we understand has available at this time funds to construct a permanent medical educational facility.

HOUSE OF REPRESENTATIVES,
Washington, D.C., January 17, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
New House Office Building, Washington, D.C.

DEAR OREN: The attached communication received from Dr. C. E. Moverman, a resident of my home community is self-explanatory.

You will note that Dr. Moverman wants optometrists included in the provision of your bill, H.R. 4999.

Your consideration will be appreciated, and I will be pleased for any advice you can give me to impart to Dr. Moverman.

Sincerely yours,

IVOR D. FENTON.

SCHUYLKILL COUNTY OPTOMETRIC ASSOCIATION,
Mahanay City, Pa., January 13, 1962.

Hon. IVOR FENTON,
House of Representatives Office Building,
Washington, D.C.

DEAR CONGRESSMAN FENTON: The House bill 4999 was introduced by Congressman Harris, of Arkansas, authorizing the expenditure, on a matching basis, of funds for the construction of classroom and research facilities for schools of medicine, dentistry, osteopathy, and public health and also for scholarships for students in these schools. Optometry is not included in either of the bills and unless they are amended so as to authorize the expenditure of funds for optometry schools and students, our profession will be discriminated against.

We urge you that it is in the public interest that optometric schools and students should be eligible to participate in this program.

There is no question but that the best possible vision is a must for students, adults, and the ever-increasing number of older citizens. It is a comparatively small percentage of these who require medication or surgery. The visual needs of the vast majority can be supplied by the members of the optometric profession. The opthalmologists are located in the larger centers of population; the optometrists are found in most of the smaller communities. The ratio of optometrists to population is steadily decreasing. The public will find it increasingly difficult to secure adequate vision care unless more optometrists are graduated by our schools and colleges.

The American Optometric Association and the schools give special consideration to such problems as motorist's vision and highway safety, visual problems of children and youth, vision aid to the partially blind, vision care of the aging, occupational vision, and problems of aeronautics and space.

There are only 10 schools and colleges of optometry in the entire United States. This is a small group. Therefore, if they are included it would be only a small portion of the funds which would be utilized for this purpose.

Your cooperation will be appreciated and will be a service to our profession and to your country.

Yours truly,

C. E. MOVERMAN, O.D.,
Public Relations Chairman.

STATE OF CALIFORNIA,
GOVERNOR'S OFFICE,
Sacramento, January 30, 1962.

HON. OREN HARRIS,
House of Representatives, House Office Building,
Washington, D.C.

DEAR MR. HARRIS: I want to express strong endorsement of your bill H.R. 4999, the Health Professions Educational Assistance Act of 1961.

California, as well as other States of our country, greatly needs to expand facilities for training of the health professions. The trend toward utilization of physicians educated in other countries (often at standards inferior to our own) to provide health services for our people is indeed alarming. I believe that the time has come for the States, with the assistance of the Federal Government, to move rapidly in the development of adequate facilities for the education of physicians and other health personnel. This is a nationwide problem.

In California a committee which I appointed in 1960 to study medical aid and health gave special attention to our needs for health manpower. The committee recommended that "California proceed at once to expand medical educational capacity in private and public institutions, with the goal of 1,400 first-year places by 1971."

This goal was determined on the basis of the same physician-population ratio for 1975 as existed in 1960, and on the assumption that California will continue to attract into the State the same number of physicians trained outside the State as in recent years. The present and currently planned expansion of medical school facilities provides for less than 700 first-year places; that is, less than half the 1,400 places needed in California by 1971. It is therefore essential that the State promptly expand its construction of medical school facilities.

I believe that the provisions of your bill are wisely drawn. In particular, the provision for planning grants, the establishment of a National Advisory Council, and the requirement of matching funds all tend to assure the development of a high quality and useful program.

I am indeed pleased that you are taking the lead in this matter and want to assure you that we in California thoroughly support the bill. I am sending copies of this letter to all California Congressmen.

Sincerely,

EDMUND G. BROWN, *Governor.*

THE COMMONWEALTH OF MASSACHUSETTS,
EXECUTIVE DEPARTMENT,
Boston, January 31, 1962.

HON. OREN HARRIS,
House of Representatives,
Washington, D.C.

DEAR CONGRESSMAN HARRIS: I respectfully submit this letter to your committee as an endorsement of H.R. 4999 which was introduced by you in the House of Representatives.

From all of the evidence and data that we have gathered in Massachusetts, we are persuaded that our existing schools of medicine, dentistry, and public health require greater support if they are to increase the opportunities for more students and train more doctors, dentists, and professional public health personnel.

There is a need to expand or rehabilitate existing schools and there is an additional need to encourage more students to enter our professional schools. To meet the first need will require grants for construction or rehabilitation of existing facilities and the second will require scholarship grants that will help not only the students but will assist the schools in covering the cost of education. Supporting data to substantiate these statements are included in this letter. (See atachments.)[1]

Bill H.R. 4999 is designed to help meet these two needs. They are national as well as regional.

In Massachusetts, we have three medical schools, two dental schools, and a school of public health, all private and all admitting qualified students from any

[1] Material referred to is on file in the records of the committee.

State in the United States of America or abroad. We are one of the constituent members of the New England Board of Higher Education. The board comprises representatives of Rhode Island, Massachusetts, Connecticut, Maine, New Hampshire, and Vermont, and is vitally concerned with increasing the opportunities for New England students in the health services. The States have entered into agreements with medical schools and dental schools of the region to pay "cost of education grants" to those schools that were able and willing to increase their enrollment of students from the areas over that which existed in 1955, and by entering into contract with such schools as the University of Vermont, to accept up to 70 students from Massachusetts over a 4-year period.

These plans took into account the promotion of an equitable geographical distribution of opportunities for training based upon such considerations as population, available physicians and their age, number of students entering medical and dental schools in the region and in the Nation, as well as the available resources in the New England region.

Massachusetts has a limited scholarship program for medical and dental students. The existing programs for increasing opportunities for the students of the area have assisted in solving some of the problems but they have also uncovered the great need for the future.

It is my opinion that bill H.R. 4999, if enacted, would be a great step forward in helping to solve some of the problems in the training of more professional personnel in the health services and we favor its enactment.

Sincerely yours,

JOHN A. VOLPE, *Governor.*

STATEMENT BY WINFRED L. GODWIN, DIRECTOR, SOUTHERN REGIONAL EDUCATION BOARD

I am Winfred L. Godwin. I serve as the director of the Southern Regional Education Board. I present this statement at the request of Gov. Terry Sanford, of North Carolina, chairman of the board, to comment on H.R. 4999 in light of the interests and studies of the Southern Regional Education Board in the health fields. Since my board has not had the opportunity to discuss this bill in any detail, it should be understood that I submit the statement as head of the board's staff and at the request of my chairman. Both Governor Sanford and I had hoped that we could appear in person before the committee, but this was impossible because of calendar conflicts.

The Southern Regional Education Board is the operating agency of an interstate compact in the field of higher education. The 16 member States of this compact include: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

Since its beginning in 1949, SREB has been concerned with the supply of trained health manpower. Through regional contract programs which have pooled many of the region's resources in medicine and dental education, to mention two fields, SREB has arranged for the training of over 3,000 medical and over 3,000 dental students. Many of these students, especially in medicine, were trained under interstate agreements pending the opening of new medical schools.

A major responsibility of SREB is to call to the attention of the States of the region changing needs and resources in various fields and to recommend needed action. Two recent studies—with recommendations—are of special interest here, one in dentistry and one in medicine. These studies reveal findings consistent with trends reported in many other studies in various parts of the country: a growing, more urbanized, better educated, and more prosperous population need, and is demanding more and better health services. The demand for professional health services in the South will increase substantially by 1975 because: (1) the population will have increased by 13 million; (2) an eighth more of the population will live in cities; (3) the proportion of elderly people will increase by 12 percent; (4) the educational level will continue to rise; (5) incomes will increase; and (6) insurance coverage will continue to grow rapidly.

This means, for example, that my region will need some 86,000 physicians by 1975, compared with 54,000 currently, just to reach a level that the Nation has already attained. Or, in the case of dentists, the South will need 36,000 by 1975 against a current total of some 14,000, if it is to attain 15 years hence the

curent national relationship between the number of dentists and the population's income.

These needs dictate an expansion of training facilities, as indicated in our reports on medical and dental education which I am filing with your committee. The thing I would like to stress most emphatically is that the States and institutions of my region have been making strenuous efforts in recent years to expand their programs for training health manpower, more than any other region of the country.

New public medical schools have been erected in Florida and Kentucky; and Mississippi, North Carolina, and West Virginia have expanded their 2-year schools of basic medical sciences to 4-year schools. Texas has assumed public control and financing of a formerly private medical school in that State.

In dentistry, Alabama, Kentucky, North Carolina, and West Virginia have established new schools in recent years.

Despite these striking advances by States and institutions of the region, however, southern medical schools alone need some $15 million for rehabilitation and remodeling of present teaching facilities, and an additional $55,500,000 by 1965 for new teaching facilities. These sums do not include estimates for teaching hospital construction (an estimated $60,600,000) or for student facilities or administration facilities (another $40 million).

In dentistry, at least five schools in the region need new physical plants, and two more need additions to present plants if research and graduate training are to develop.

The South already makes a relatively greater degree of effort in providing opportunity for medical education, for example, than does the rest of the Nation. In the Nation at large in 1958, there was an average of 25 first-year places in medical schools for every billion dollars of personal income, but the corresponding figure for the South was 29. Yet the average expenditure per southern medical school is almost $1 million less than the average expenditure of medical schools in the United States. All of this adds up to the fact that my region, despite tremendous outlays for new facilities, faces the need for still more facilities, at a time when it continues to lag in operating support for such facilities.

It is my judgment that little additional expansion of health education facilities will occur in the South in the foreseeable future without some stimulation from Federal funds. Leaving aside the whole matter of the national interest in having an adequate numbers of trained health manpower, it can be noted here that the principle of local effort has been demonstrated well by State legislatures and private institutions in the South in the matter of education for the health professions.

In this connection, may I call your attention to the Commission on Goals for Higher Education in the South, chaired by former Virginia Governor Colgate W. Darden, Jr., which expressed "serious doubt" that higher education needs could be met from State and local governments and private groups alone. The Darden commission, composed of seven of the region's most distinguished natives, said "it is clear that support through federally collected revenue also must be increased." A copy of the commission's complete report is also being submitted for your information. If Federal funds become available for construction, expansion, or renovation of teaching facilities, I am confident that several States and private institutions will move to match such funds. The provision of H.R. 4999 for such grants will definitely stimulate added training capacity in the southern region.

But school capacity alone is not enough if we are to secure needed health personnel. The scholarship portion of H.R. 4999 would help deal with one of the most serious deterrents to the pursuit of education in the health professions—the high cost to students. Four-year expenses at a medical school, for example, average about $10,000 for an unmarried student. In the South, about 70 percent of medical students are married, and for these costs average from $12,000 to $16,000 depending on the number of children.

Even these figures fail to define the real financial load which a medical education means, when it is remembered that the doctor's training is not completed until 8 to 12 or 14 years after entering college. This extreme postponement of earning capacity is a serious hindrance to the attraction of potential medical students, especially from families of average or lower income levels. Several years ago it was shown that only 15 percent of medical students came from the income bracket of "less than $5,000 per annum" although 41 percent of

white urban families earned no more than this. A slightly greater percentage of southern students came from the lower bracket but, as elsewhere, almost half came from the "plus $10,000" bracket, which accounted for only 11 percent of families.

Parental income can hardly be justified as the important selective criterion for studying medicine which, in effect, it has become. If capable students are to enter medical schools from moderate and lower income groups of the population, ways must be found to assist these students in meeting the costs of medical education. Ironically enough, it is in the most expensive fields of professional education that the availability of stipends appears to be least ample. Almost 40 percent of graduate students in the arts and sciences receive income from scholarships, fellowships, research or teaching assistantships which average $1,800 or more annually, as compared with only 2 percent of medical students who receive that much in stipends. While medicine still has great prestige in our society, the attractions of new and exciting avenues for vocational expression, especially in the sciences, present tough competition to the medical schools apart from the short-term advantages of fellowship support.

The scholarship awards proposed under H.R. 4999, while modest in comparison with the high costs of medical education, should be adequate in the context of the medical student's other sources of funds. While almost half of these funds, in some form, come from the parents of the students, it should be noted that 99 percent of medical students pay part of their expenses by working. In fact, student earnings cover 20 percent of costs and wive's earnings account for another 17 percent. Loans and scholarships have provided only 9 percent of costs in the past.

The principle of cost of education payments as proposed in H.R. 4999 is a sound one, which has worked well in the operation of the national defense graduate fellowship programs. Certainly, if the effect of scholarship grants is to stimulate enrollments, ways of meeting corresponding increases in operational costs must be assured since tuition covers only a fraction of these costs. The amount of the proposed cost of education payments is modest, being less than half the maximum allowed under the national defense graduate fellowship programs. While scholarships stimulate quantity of medical education, cost of education payments may be expected to help assure maintenance of quality in medical education.

The wise provision of H.R. 4999 to extend and expand the research facilities grant program has eloquent enough testimony from the results already achieved through that program. But our recent medical education study still showed a need by 1965 of some $20 million for new research facilities.

I would like to make one final comment about H.R. 4999. I heartily endorse its emphasis on the need for adequate planning of new facilities. I am pleased especially that the bill notes the role of State and regional planning in leading to wisest use of construction funds, and that it also permits grants for the construction of regional facilities for research.

As early as 1957 we recommended interstate planning in the Southwest and the upper South subregions for expansion of existing dental schools or establishment of new dental schools. And in the more recent medical education report, we stated that one idea which has not been studied carefully is the possibility of interstate agreements to expand or construct medical school facilities. This would be a new departure, but then the extent of our growing need is new and we will be taxed to find all promising solutions. I am confident that interstate planning can play a helpful role in expanding facilities in the future.

In conclusion and summary, I believe that the passage of H.R. 4999 would provide important and needed assistance in meeting the health needs of the South and the Nation.

NORTHERN ASSOCIATION FOR MEDICAL EDUCATION,
St. Paul, Minn., January 29, 1962.

Re H.R. 4999 medical schools construction bill.

Hon. OREN HARRIS,
House of Representatives, Washington, D.C.

DEAR CHAIRMAN HARRIS: The Northern Association for Medical Education, NAME, is an organization composed of 505 doctors, who have been working to establish a new medical school in St. Paul, Minn.

The association wishes to express its hope that your committee will report H.R. 4999 favorably to the House of Representatives, and requests this letter be included in the records of the hearing.

NAME has been organized since 1958 to develop a school of medicine in St. Paul, Minn. The members of the association became aware at that time of the impending shortage of medical manpower that faced the Nation. They surveyed the clinical facilities in St. Paul and found them well suited for the establishment of a new medical school in this city.

During the past 3 years the organization has conducted an information program to impress the community with the need for medical schools in the United States and for the establishment of a new school in St. Paul. Members of the association have been enlisted, not only from the Twin Cities, but also from Minnesota statewide, Wisconsin, North and South Dakota, Montana, and Wyoming.

The association has had its plans for a new medical school endorsed by the Ramsey County Medical Society, the Minnesota State Medical Association, the city government of St. Paul, the chamber of commerce, representatives of the labor movement, and a number of other civic and community organizations in the area.

The importance of H.R. 4999 to our proposed medical school cannot be overemphasized. To our knowledge everyone agrees that a new medical school in St. Paul is important to the community and to the Nation, but the problem of finding adequate funds to construct the school has been the one important obstacle that must be overcome before the plans for the school reach fulfillment.

Our medical school will have the advantages of new clinical teaching facilities in the city-county hospital that is being built to replace an old structure in St. Paul. There is also new and progressive programs for the cooperation of private hospitals and clinics in the teaching of medicine, here, as well as the care of the medically indigent.

As you know, there is only one other 4-year school in the five-State area from which members of NAME are drawn. The enclosed map graphically illustrates this point.

All these factors, and others combined, contribute to the natural development of a medical school here. With matching funds from the Federal Government local resources can establish 1 of the 20 or more needed schools in St. Paul.

Sincerely,

JOHN W. HEDBACK,
Executive Director.

NORTHERN ASSOCIATION FOR MEDICAL EDUCATION CHARTS PLANS FOR A NEW MEDICAL SCHOOL IN ST. PAUL

On April 1, a year after organized activities were launched, the Northern Association for Medical Education has grown to 488 physician members. A program for its future efforts has been adopted as projected in the accompanying charts.

The critical need for additional medical schools in the United States is shown in the first two graphs. Next is a map that demonstrates better than words the importance of a medical school in the Northwest area.

Plans for the development of St. Paul's medical school follow.

In studying the cost of a school, as shown in the last illustration, it must be stressed that all of this funding is not expected to be developed locally.

Legislation now in Congress proposes to pay 66⅔ percent of the costs of new medical school construction; up to $500,000 a year in planning and development costs; substantial sums to the operating deficits once the school is running.

National foundations are expected to help. The Kellogg Foundation last year gave two grants of more than $1 million each to the universities of New Mexico and Connecticut to develop new medical schools.

NAME is now working to be organized and ready for the acceptance of such grants. The cost of a new medical school in St. Paul is upward from $40 million, but the need for local financing is a fraction of that to bring this worthwhile institution to our city.

NORTHERN ASSOCIATION FOR MEDICAL EDUCATION FACT SHEET

Objective.—The establishment of a new medical school in St. Paul, Minn.

Facts on medical education

There are:

Eighty-two 4-year schools (40 are State owned); three 2-year basic medical science schools.

Average graduating class is 90. Total 85 schools graduated 7,081 M.D.'s in 1960.

There are 132 doctors per 100,000 population in United States; 235,000 doctors, 156,000 in private practice.

Need

To merely maintain this ratio, by 1975, we must graduate 4,000 more doctors each year.

Full expansion of our present schools (maximum resources in money and facilities) would produce only 2,000 more graduates.

At an average of 100 per graduating class, 20 more schools must therefore be established.

These facts are agreed upon by the U.S. Public Health Service, the American Medical Association, and the Association of American Medical Colleges.

Nature and costs of medical school

Course is 4 years after premedical training (usually a degree).

First 2 years of basic medical science requires heavily equipped laboratories, cadavers for anatomy, etc.

Second 2 years requires hospitals and outpatient clinics, approximate flow of 10 patients per senior student.

Average cost of new schools in last 10 years, $22.5 million including hospital.

Medical Science Building cost, average $7 million.

Average school expenditures per year $2 to $3 million. (Spread $988,000 to $12 million including research expenditures.)

Why a new school in St. Paul?

The $16 million new city-county hospital is two-third of the cost of a new school.

Only one 4-year school in northwest area: University of Minnesota. No private school in northwest area.

St. Paul is only community with enough clinical material (patients) for new school in area.

Six private liberal arts colleges in St. Paul.

Will boost St. Paul's economy by $4 to $5 million a year, boost its health standards and facilities appreciably.

One of few places in United States to place a new school (chosen by U.S. Public Health Service as plausible location).

About NAME

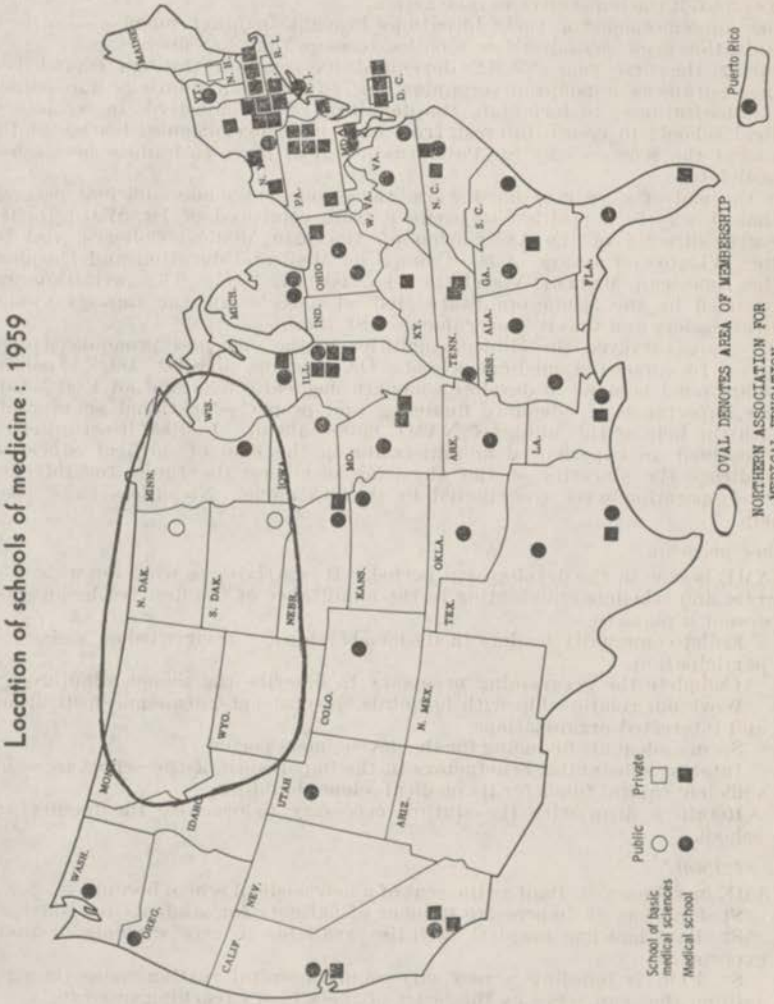
Organized in 1958 by St. Paul doctors to develop a private school.

Four hundred and eighty doctors in five States are members, 273 St. Paul doctors (majority).

Program endorsed by mayor, city council, chamber of commerce, Downtown St. Paul, Inc., Ramsey County Medical Society, Minnesota State Medical Association, president of AMA, newspapers, and labor organizations.

Two hundred doctors have contributed $25,000 to launch program.

NAME plans are to aim at opening school in 1967.


Location of schools of medicine: 1959
MAINE
N. H.
R. I.
N. Y.
D. C.
PA.
W. VA.
VA.
N. C.
S. C.
OHIO
MICH.
IND.
KY.
GA.
ALA.
TENN.
FLA.
ILL.
MISS.
WIS.
ARK.
LA.
MINN.
IOWA
MO.
N. DAK.
S. DAK.
NEBR.
KANS.
OKLA.
TEX.
COLO.
N. MEX.
WYO.
MONT.
IDAHO
UTAH
ARIZ.
WASH.
OREG.
NEV.
CALIF.
Puerto Rico
OVAL DENOTES AREA OF MEMBERSHIP
NORTHERN ASSOCIATION FOR MEDICAL EDUCATION
Private
Public
School of basic medical sciences
Medical school

The Northern Association for Medical Education

NAME

Dedicated to the establishment of a new medical school in St. Paul, Minn.

BACKGROUND

NAME was organized by 71 physicians in the fall of 1958. This group saw the impending shortage of physicians that faced the Nation in the next 20 years and felt the imperative to take action.

The announcement of their intentions brought in other members until the organization grew, within a few months, to more than 248 doctors.

During the first year NAME developed its program through committees: to incorporate as a nonprofit organization; to establish relations with educational institutions; to formulate the definition of its objectives in terms of a medical school; to create interest from civic and governmental bodies, and to document the reasons why St. Paul was a logical place to build a new school of medicine.

At the end of a year of hard work, the group had made sufficient progress so that it was in a position to invite a team composed of Dr. Ward Darley, executive director of the Association of American Medical Colleges, and Dr. Walter Wiggins, secretary of the Council on Medical Education and Hospitals of the American Medical Association, to visit St. Paul. The invitation was co-extended by the Minnesota State Medical Association, the Ramsey County Medical Society and the city government of St. Paul.

The team surveyed the clinical facilities in the city and pronounced them adequate to support a medical school. Dr. Wiggins and Dr. Darley pointed out what must be done to develop a modern medical school and advised NAME of the importance of adequate financing and proper educational sponsorship.

With the help of this guidance NAME moved ahead. In 1960 it set up offices and retained an experienced administrator in the field of medical education. To indicate the sincerity of the physician members, the funds for this first year of operation were contributed by doctors alone. No others were asked to help.

Future program

NAME is now in the development period. It is striving to work out a detailed program and schedule culminating in the admittance of the first freshman class. At present it plans to—

Enlist community leaders in its membership for their wisdom and active participation.

Complete the programing necessary to describe the school minutely.

Work out relationship with hospitals, governments, academic institutions, and interested organizations.

Secure adequate financing for the development period.

Interest substantial benefactors in the importance of the school to secure sufficient capital funds for its medical science building.

Retain a dean with the stature necessary to organize the faculty and school.

Why St. Paul?

NAME has chosen St. Paul as the seat of a new medical school because—

St. Paul has an impressive number of patients for students to study.

St. Paul has fine hospital facilities available to give students firsthand experience.

St. Paul is building a new city-county hospital costing more than $16 million that can serve as the heart of the school's teaching program.

St. Paul has a medical profession trained in teaching through affiliation with Mayo Clinic and the University of Minnesota.

The Twin Cities would be the geographic choice for the many students from the Northwest area.

Only one 4-year medical school, the University of Minnesota, exists in the Northwest area until the Pacific coast is reached.

St. Paul has a tradition of higher education with six private colleges located in the city.

What will the nature of the medical school be?

NAME hopes the school will develop along the following lines:

It will be a private medical school. As such it will not have the restriction on its source of students as do State universities. (See Time article.)

Present plans are to admit a freshman class of 70, a total medical student enrollment of 270, plus nurses, students of medical technology, bacteriologists, etc.

It will have a budget of approximately $2 million a year, treat thousands of indigent patients, and conduct responsible research projects.

Because it is new, it can incorporate many advanced concepts in medical education, apply accelerated teaching programs if they are found practicable elsewhere.

Its philosophy will emphasize the practitioner of medicine, the dedication of his science and healing art to mankind through steadfast study of the human patient and his ecology as well as his parts.

BOARD OF TRUSTEES

Davitt A. Felder, M.D., president
Edward P. Burn, M.D., vice president
Ian A. Brown, M.D., secretary
Ben Sommers, M.D., treasurer
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Wallace P. Ritchie, M.D.
Albert E. Ritt, M.D.
Gilbert P. Wentzel, M.D.
John W. Hedback, executive director

THE NORTHERN ASSOCIATION FOR MEDICAL EDUCATION

[Reprint from Minneapolis Star, July 29, 1960]

This article summarizes the background and plans NAME now has for a new medical school:

WOULD ENROLL 270—NEW MEDICAL SCHOOL WILL OPEN IN 1967

(By Hal Quarfoth, Minneapolis Star staff writer)

By 1967 the Northern Association for Medical Education hopes to open the doors of a new medical school in St. Paul.

Plans call for a 4-year school with an enrollment of 270 to 280, graduating 70 doctors a year.

Estimated costs include about $8 million for construction of a medical science building and supplementary research and administrative facilities, possibly $500,000 for development of plans, faculty, and curriculum and an endowment, possibly as high as $30 million.

The school would be the only 4-year school in the area besides the University of Minnesota Medical School and would be the only private doctor-training institution between the Twin Cities and the west coast.

"We believe the new school should be private, rather than State or municipal, to maintain a balance between public and private education," said John Hedback, executive director of the association.

The idea of a new medical school in St. Paul is backed by city officials, civic organizations, and the House of Delegates of the Minnesota State Medical Association.

The association believes the school could be erected near the new Ancker Hospital planned in the eastern redevelopment area, east of the capitol, and dovetailed with the hospital's program.

Thursday Dr. Davitt A. Felder, association president, urged that the Ancker Hospital Building Commission emphasize the importance of the teaching function in the new city-county hospital.

"If the new medical school is an important program for Ancker, the hospital will be a better hospital," he said.

He pointed out that the present graduate medical education program could easily be expanded for undergraduate clinical instruction as well.

A lot of hard work lies ahead before the school can open, said Hedback.

His group was formed in 1958 to set up a medical school in St. Paul.

The association has raised more than $15,000 from its 248 doctor members to finance preliminary operations.

It plans to invite physicians from the entire State and from North Dakota, South Dakota, Wyoming, Montana, and western Wisconsin to join.

Lay members also will be added. A committee on lay member policy has drawn up a list of about 80 influential Twin Citizens who will be urged to become the nucleus for a widely expanded general membership.

Planning for the school falls into three phases, Hedback said.

The first, now going on, is the development of a detailed program and schedule, including an analysis of the capital funds required.

The second, expected to be launched by January 1, will be requests for large grants from philanthropists, foundations, and others for building funds. In this phase, it also is hoped that a dean can be selected.

The third, largely the responsibility of the dean working with the association, will consist of construction plus organization of faculty and curriculum. The time schedule is between 1963 and 1967.

Meanwhile, efforts to raise an endowment fund will continue. The $30 million figure, Hedback pointed out, is subject to modification because of the possibility of income from the Federal Government and other sources. All other phases of the program, too, will be studied by a programing and scheduling committee and could be changed.

The endowment would provide operating income. Annual budget is expected to be about $2 million, with perhaps $500,000 of that returned as income from patient care and research grants.

The $8 million construction estimate is also tentative, based on the experience of the eight entirely new medical schools built in the country since 1943.

Costs for these schools averaged between $22 and $25 million, Hedback said, but about two-thirds went into construction of teaching hospitals.

"In St. Paul, we have a prime area of clinical teaching facilities at Ancker Hospital and excellent teaching facilities at the other major hospitals," he said, "so we can eliminate the cost of teaching hospitals."

The association hopes to have from $2 to $4 million in building funds by the time a dean is selected, and $6 or $8 million in the endowment fund when doors open. No public subscription campaign is planned at present.

"We would like to be under the academic sponsorship of a St. Paul Liberal Arts College," Hedback said, "and one is studying the feasibility."

He is confident the school will have no difficulty in acquiring a staff. "Many of the physicians in the association have clinical professorships, and most are teaching in hospitals," he said.

STATEMENT BY DR. IRVING YALE, CHAIRMAN, COUNCIL ON EDUCATION, AMERICAN PODIATRY ASSOCIATION

Mr. Chairman and members of the committee, I am Irving Yale, D.S.C., Ed. D., chairman of the Council on Education of the American Podiatry Association. I would like the following statement incorporated into the official record of this hearing.

The Council on Education is the accrediting body recognized by the Department of Health, Education, and Welfare, and the Department of Labor. As in the other health fields podiatry is confronted with the problem of increasing the opportunities for training of podiatrists.

Podiatry is a recognized member of the health team and has no counterpart in other health professions. Our professional people are serving the public as commissioned officers in the Armed Forces, in hospitals and clinics maintaining services for the elderly and chronically ill, in industry and as private doctors of podiatry on the local community level.

Our institutions of learning are nonprofit and are sorely in need of modern facilities for training our scientists and future practitioners. Progress in research on foot disorders has been hampered by lack of adequate physical facilities and personnel. It is unwise to expect the foot health of the American public to be maintained at the high level which now exists without some governmental assistance as proposed for other health fields. Several of our colleges have plans for expansion on the drawing boards and are thwarted by the high costs of construction.

The podiatrists commissioned, in the Army, Navy, and Air Force, together with those practicing with the Veterans' Administration, need further advanced training to maintain their status alongside the other health professions. This opportunity has not been made available to them due to certain restrictions and inadequate facilities. These men should receive their postgraduate training at a college of podiatry where present personnel devote their time to teaching the foot doctors of tomorrow's America.

Our scholars are in dire need of funds, by way of scholarships, to improve themselves, educate others, and to take their place in the profession as teachers of foot health in the best interest of the public need.

The Council on Education recognizes that the high cost of operation of our professional schools cannot possibly be justified by tuition alone. Improvement of physical plants, construction of modern laboratory facilities, and matching grants for future development can make it possible to train more foot doctors.

The statement by Dr. Rubin, secretary of the American Podiatry Association, describes vividly the needs as pointed out by the Special Commission on the Status of Podiatry Education. It is also evident that the profession has contributed to its institutions of learning beyond its call of duty. The record will show that while other professions have received aid from governmental and philanthropic funds the profession of podiatry has stood on its own two feet in the pioneering manner that has made our country so great. However, with the tremendous advancements in educational qualifications, and the need of more foot doctors to satisfy the public need, it is essential that we respectfully request inclusion in your present legislative effort to provide assistance to the health professions. Increased opportunities for training of more podiatrists has now become the responsibility of all of us working together.

I want to thank you for this opportunity to advise you that the Council on Education of the American Podiatry Association is in accord with the broad concept of H.R. 4999 and that we respectfully request inclusion in the public interest.

Respectfully submitted.

IRVING YALE, D.S.C., Ed. D., *Chairman.*

HEADQUARTERS OF AMERICAN PHARMACEUTICAL ASSOCIATION,
Washington, D.C., January 29, 1962.

Re H.R. 4999, H.R. 8774, and H.R. 8833.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
U.S. House of Representatives, Washington, D.C.

MY DEAR MR. HARRIS: The American Pharmaceutical Association is pleased to submit the enclosed statement to you, and respectfully requests that it be made a part of the official record.

We sincerely appreciate this opportunity to express ourselves in the matter of H.R. 4999, H.R. 8774, and H.R. 8833.

Sincerely yours,

WILLIAM S. APPLE, Ph. D., *Secretary.*

STATEMENT OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

The American Pharmaceutical Association, organized in 1852, is the oldest national association in American pharmacy. The objectives of the association since its inception have concerned themselves exclusively with the development of standards to improve and promote public health. For 110 years, we have devoted our energy to maintain and achieve higher standards of professional practice and improvement of the quality of drugs available to the American people.

The American Pharmaceutical Association has no financial, business, or commercial interest in any pharmaceutical product, manufacturer, wholesaler, or pharmacy; its sole interest is promoting the highest standards of public health through improved professional pharmaceutical service.

One basic objective of the association, as stated in its constitution, is: "To provide a system of education and training in the art of pharmacy, calculated to produce competent personnel through all phases of the practice of pharmacy

and the training of pharmacists as the means of providing the greatest protection for the public at large."

On behalf of the high standards of professional competence we have fostered, and which we seek not only to maintain but improve, the American Pharmaceutical Association favors congressional consideration of means of making funds available in order to foster adequate facilities for public health education and the training of professional health personnel. Moreover, pharmacy, like medicine and dentistry, is an integral phase of total public health care and we therefore feel that it is necessary and desirable to make specific reference to the profession of pharmacy in the proposals you are now considering.

We must emphasize that the public health function of pharmacists is not merely a phase of the practice of the profession of pharmacy, but rather, the practice of the profession of pharmacy is an integral phase of the practice of public health.

Pharmacy is one of the public health professions and has been considered as such since time immemorial. Pharmacists join with physicians, dentists, and other members of the public health team to assure our citizens the highest obtainable type of health care. The pharmacist's role in the public health of the Nation is an ever expanding one as newer, more effective, chemotherapeutic agents are made available and new approaches to the mitigation and cure of disease are developed.

Community and hospital pharmacies, research and control laboratories, product development and manufacturing, and numerous governmental agencies are among the numerous public health areas utilizing pharmaceutically trained personnel. The special education, background and knowledge of pharmacists is creating additional public health service responsibilities for members of our profession. Schools of pharmacy are making every effort to respond to the demands for their graduates.

To determine whether or not there is a need for additional facilities and to intelligently project the future demands for pharmacists in all professional specialities, the American Pharmaceutical Association and the American Association of Colleges of Pharmacy, in cooperation with the U.S. Public Health Service, is undertaking a professional manpower study in pharmacy. Thus, by first accurately determining the areas and amounts of manpower needs within the profession, both private and Government funds invested in pharmaceutical education would be used most effectively.

With appropriate amendments, the assistance proposed by the bills before you would enable pharmaceutical education to move forward without delay. In this connection, your attention is invited to a parallel Senate bill (S. 1072) to which such amendments have already been introduced. These amendments make schools of pharmacy eligible for financial aid as is proposed for schools of medicine, dentistry, and public health. With such assistance to education, the public would be assured of the availability of competent personnel to provide complete professional services and thus preserve our high standard of health care.

THE UNIVERSITY OF TEXAS—MEDICAL BRANCH,
Galveston, January 16, 1962.

Hon. JOE M. KILGORE,
House of Representatives,
Washington, D.C.

DEAR MR. KILGORE: My attention has been called to the fact that the House Committee on Interstate and Foreign Commerce is holding hearings on H.R. 4999, January 23–26, 1962, and that representatives of our Association of American Medical Colleges will appear on the morning of January 24.

I profoundly believe it to be in the best interest of the State of Texas and of the United States that you favor reporting this bill out, with committee endorsement; and that you actively support its passage by the House.

The Nation needs well-trained doctors in larger numbers. Texas needs well-trained doctors in larger numbers than our facilities throughout the State permit: thoroughly trained family physicians, specialists, medical school teachers in both clinical and basic science fields, investigators and medical scientists of the first rank.

Facing this challenge, what are our major problems today in Galveston; tomorrow in San Antonio? They are ones toward the solution of which H.R. 4999 goes a long and careful way:

1. Construction funds for teaching facilities (specifically outside the hospital purposes of the Hill-Burton Act, and outside the research purposes of the Health Research Facilities Construction Act).

2. Additional construction funds for health research facilities. Grants already approved by this agency today, cannot be awarded because fiscal 1962 funds are exhausted.

N.B. The University of Texas Medical Branch will submit our first major request from this agency on April 1 in the amount of over $2,500,000, for which University of Texas available fund bond issue money will be earmarked for matching purposes.

These two are essentially one-shot items, with no troublesome strings attached. The Texas Legislature, facing the new medical school in San Antonio (not to mention the University of Houston) next session cannot be expected to provide funds of this sort.

The third problem relates to the need for medical student scholarships in the face of a nationwide decrease in the numbers of well-qualified applicants to schools of medicine. The long and expensive training for medicine and medical science (in an age group that will get married) is widely regarded by medical education as a major factor in this recruitment problem.

H.R. 4999 hits these three problems squarely. It is a bill which has had the benefit of the most careful study possible; and it has the merit of regarding the national problem in terms of medical education, students, and the need for doctors—rather than in terms of a special-interest group.

I am taking the liberty of forwarding a copy of this letter to my Congressman and friend, Clark W. Thompson, with the confidence that he will assure you that I am no spendthrift liberal, and with the hope that he will add his voice of conviction to mine—to the end that you will consider H.R. 4999 in the highest priority for your endorsement.

Sincerely yours,

JOHN B. TRUSLOW, M.D.,
Executive Dean and Director.

BAYLOR UNIVERSITY,
COLLEGE OF MEDICINE,
TEXAS MEDICAL CENTER,
Houston, Tex., January 17, 1962.

Hon. JOE M. KILGORE,
House of Representatives,
Washington, D.C.

DEAR MR. KILGORE: The House of Representatives Interstate and Foreign Commerce Committee of which you are a member, has scheduled hearings on H.R. 4999, "a bill to increase the opportunities for training of physicians, dentists, and professional public health personnel, and for other purposes" for January 23–25, 1962. I am writing to urge that you give favorable consideration to this proposed legislation.

My interest in this bill stems from the fact that I have been dean of a medical school for the past 12 years, 9 of which have been at Baylor University College of Medicine. I have served on the Executive Council of the Association of American Medical Colleges for the past 5 years during which time I have become convinced that our country does indeed need additional facilities for the education of physicians and dentists to meet the rapidly rising level of population. A gradual reduction in the ratio of physicians per population has occurred in recent years, and it seems highly likely that this ratio will continue to drop unless the rate of production of physicians is increased sharply. Baylor University College of Medicine does not at this time contemplate the use of such funds as may be made available for construction. The State of Texas, however, has initiated steps to construct a new school of medicine to be located in San Antonio and operated as a branch of the University of Texas. This facility would be eligible for a matching grant in the event H.R. 4999 was enacted into law and funds were appropriated to implement its provisions.

Careful studies by the Association of American Medical Colleges indicate that the largest number of students undertaking the study of medicine come from

families whose income is substantially above that of the national average. The high cost of medical education almost surely accounts for this phenomenon. The distribution of intelligence and ability, however, is not related to the economic level of the family into which children are born, and it seems certain that there are large numbers of qualified students among the lower income levels who could and should prepare themselves for careers in the health professions and who would do so if it were economically possible. The provisions of H.R. 4999 with respect to scholarships would bring a medical or dental education within the means of a large number of individuals who now seek other occupations for economic reasons. The scholarship provisions would benefit the students of each of the professional schools in the State of Texas equally.

An additional factor which may be of interest to you as a Representative from the State of Texas is that for many years we have trained less than 50 percent of the total number of physicians licensed annually in this State. It is only in the past 4 or 5 years that the percentage has increased to as high as 55 percent of the total. This means that the State-supported and private schools in other States have educated approximately 50 percent of the physicians who serve the people of the State of Texas. The enactment of legislation which would provide for the expansion of educational facilities for physicians, dentists, and other health personnel would benefit Texas substantially in the future even as it has been benefited by the contributions of medical schools in other States for many years in the past.

Your favorable action in recommending this bill will be deeply appreciated.

Yours sincerely,

STANLEY W. OLSON, M.D., *Dean.*

BROWN UNIVERSITY,
Providence, R.I., January 19, 1962.

Hon. JOHN E. FOGARTY,
House of Representatives Office Building,
Washington, D.C.

DEAR CONGRESSMAN FOGARTY: I enclose a copy of a letter that I have just written Representative Harris. As I am sure you know, this bill is of great importance to Brown's effort to establish a program of medical education in Rhode Island. I hope you will give it whatever support you feel is appropriate.

Sincerely yours,

BARNABY C. KEENEY.

BROWN UNIVERSITY,
Providence, R.I., January 19, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives,
Washington, D.C.

DEAR CONGRESSMAN HARRIS: In June 1961 the corporation of Brown University approved the establishment of a program in the basic medical sciences at the university. This is the equivalent of a 2-year school of medicine as described in the bill, H.R. 4999, which, I understand, was introduced by you and is to be the subject of a hearing before the House Committee on Interstate and Foreign Commerce. I strongly recommend favorable action upon this bill by the committee and the Congress.

At the present time Brown University is the only privately supported independent university which is committed to the establishment of a new program in medical education. This step was taken only after serious consideration of the opportunities and obligations for this university which arise from the present and predicted future need for increased efforts in the field of medical education. In assuming this obligation the university recognized that its successful implementation could not be accomplished with funds from private sources alone. In view of the philosophy and record of action of the Federal Government in support of medical research, its concern for the future supply of physicians as documented by recent studies and the knowledge that legislation such as that proposed in H.R. 4999 was pending, the university anticipates the necessity and likelihood of Federal participation in the support of medical education.

The pattern already established in governmental support of research and research training which is reflected in H.R. 4999 is an appropriate pattern for Government support of medical education in private institutions. It is doubtful

that any independent school, including Brown University, can successfully undertake the establishment of a 2- or 4-year medical school without such governmental aid.

Sincerely yours,

BARNABY C. KEENEY.

HARVARD MEDICAL SCHOOL,
Boston, Mass., January 25, 1962.

Hon. OREN HARRIS,
Chairman, House Committee on Interstate and Foreign Commerce,
House Office Building, Washington, D.C.

MY DEAR REPRESENTATIVE HARRIS: I enclose a copy of a letter concerning H.R. 4999 the deans of the three medical schools in Massachusetts have sent to Representatives Hastings Keith and Torbert Macdonald of your committee, and to the other members of the Massachusetts delegation to the Congress.

Sincerely yours,

HENRY C. MEADOW, *Associate Dean.*

HARVARD MEDICAL SCHOOL,
Boston, Mass., January 22, 1962.

Hon. HASTINGS KEITH,
House Office Building, Washington, D.C.

MY DEAR REPRESENTATIVE KEITH: The House Committee on Interstate and Foreign Commerce has scheduled hearings on H.R. 4999, a bill to provide matching grants to medical schools for the construction of teaching facilities and scholarship support for medical students. The objective is to increase the opportunities available in our Nation for the education of physicians and teachers.

On behalf of the three medical schools in Massachusetts—those of Boston University, Harvard, and Tufts—we are privileged to write the present letter to urge your strong support of this bill. The passage of the proposed legislation holds great promise for the welfare of our country.

The problem of educating doctors in sufficient numbers to care for the Nation's expanding population has been recognized by Congress since 1948. Subsequent to that time, many studies undertaken under private and public auspices have documented and analyzed the problem. Between 1948 and the present time, many suggestions have been put forward concerning how the problem might be solved.

During the past year, a consensus has been achieved among medical educators, legislators, physicians, and the executive branch of the Government, as to the form and direction that an assistance program should take. On January 10, 1961, President Kennedy's Task Force on Health and Social Security published the results of their study. They recommended, among other things:

"Federal aid for the construction of new educational facilities and renovation and expansion of existing facilities for the purpose of increasing the numbers of persons being trained in these fields."

On January 11, 1961, at the stated meeting of the institutional members, the Association of American Medical Colleges adopted several proposals of the support of medical education by the Federal Government. While I am sure you have seen copies of these proposals, they are enclosed for your convenience. Briefly, the AAMC recommends that Congress enact legislation "* * * that will provide funds for the full modernization and expansion of existing programs in medical education and the development of new programs," provide operating support for medical schools, and provide scholarship assistance for medical students. Finally, it is proposed that the present program of research support be continued and expanded.

It would seem to us, the deans of medical schools in Massachusetts, to be a matter of utmost importance that action be taken promptly. Apart from considerations of better education for physicians and the better utilization of their services, the problem of the supply of doctors, teachers, and medical scientists must be dealt with realistically if the Nation is to maintain the existing ratio of doctors to population. As you know, it is agreed by most of those who have studied the problem that by 1970 this Nation "must provide an increase of approximately 4,000 first-year places in its schools of medicine." In our opinion, the passage of H.R. 4999 will go a long way toward making this expansion possible.

Because of our mutual concern for the Commonwealth, let us turn to the situation in Massachusetts. Our State, with its three schools of medicine, has one of the most significant concentrations of medical educational resources in the country. Although each of our schools is unique in function and character, each shares common objectives and problems. Each school is devoted to providing the highest level of teaching, research, and patient care consonant with its resources. Each experiences the problem of soaring costs of education and the lack of adequate capital to expand educational facilities. Apart from the improved instruction that better facilities will make possible, the most immediate and visible impact of the passage of H.R. 4999 will be increase in the number of students each school can accept. The increase will come about in two ways:

First, the schools will be able to increase their first-year enrollment.

Second, the schools will be able to increase the number of transfer students they can accept into the third year from the growing number of 2-year medical schools already in operation or planned. (The passage of H.R. 4999 will help in this direction.)

The result of these increases will be the equivalent of a new medical school.

The majority of the physicians serving the population of Massachusetts are graduates of our three schools. More graduates will inevitably mean improved service to the community—not only through direct patient care, but through expanded programs of patient care achieved by schools and their affiliated hospitals.

There is another point to which we should like to invite your attention. New medical schools and larger medical schools must have more faculty members. These additional teachers can now be educated only in existing schools. It will interest you to know that Harvard, for example, prepares more medical teachers than any other two schools in the Nation.

In the past, Federal programs for the support of research in medicine and in medical science and for construction of research facilities have been successful from the point of view of improving the Nation's health and from the point of view of the institutions involved. Federal participation in the support of these activities has not meant Federal control. We believe that this will continue to be true for a program of matching grants for teaching facilities and grants for scholarship support. The importance to our country of research in the medical and biological sciences has been recognized for many years. It is now time for the Congress to recognize that education in medicine underlies both research and patient care.

Finally, a word about the scholarship provision of the proposed bill. Medical education is a long and costly process for the student as well as for the school. Scholarship funds such as those visualized in this bill will place medical education within the reach of many who cannot now contemplate such a career because of economic circumstances. If these scholarship grants are made, the Congress will in our opinion have done much to assure the supply of talented physicians and scholars for the future.

Please let any of us know if you have questions. We will do our best to answer them.

Sincerely yours,

GEORGE PACHER BERRY, M.D.,
Dean, Harvard Medical School.
JOSEPH M. HAYMAN, M.D.,
Dean, Tufts University Medical School.
LEWIS H. ROHRBAUGH,
Acting Dean, Boston University School of Medicine.

WESTERN RESERVE UNIVERSITY,
SCHOOL OF DENTISTRY,
Cleveland, Ohio, February 13, 1962.

Representative OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
U.S. House of Representatives, Washington, D.C.

DEAR REPRESENTATIVE HARRIS: May I respectfully request that this letter be included within the hearing record on H.R. 4999.

The School of Dentistry of Western Reserve University is housed in a building which is 45 years old. Two hundred and forty-five students are crowded

into a building with less than 30,000 square feet of floor space. Research in the etiology of dental disease designed ultimately to be applied in the prevention of dental caries, the most prevalent of all diseases, and other dental diseases is housed in a separate building on the university campus.

Preliminary architects' drawings for a new building have been prepared. The proposed building will allow us to increase by one-third the size of the entering class of future dentists. The graduate training program will be greatly expanded as will the training of auxiliary personnel in cooperation with other educational institutions in this area. The estimated cost of the new building for teaching, research, and patient service is $4 million. A fund drive to raise a portion of this sum from our alumni and others is being inaugurated this month. Matching funds from the Federal Government will be essential if this goal is to be accomplished.

It has been estimated by the Manpower Division of the Dental Corps, U.S. Public Health Service, that the critical need for educating dentists is greater in Ohio than in most other States. While about two-thirds of our students are residents of Ohio, we have students from many other parts of the country. Also, Ohio residents after graduation often decide to practice in other States.

Passage of H.R. 4999 would greatly increase our capacity to serve the Nation in the education of future dentists and dental specialists. It would also enable us to strengthen and broaden our program of research.

Sincerely yours,

PAUL E. BOYLE, D.M.D., *Dean.*

UNIVERSITY OF MARYLAND,
SCHOOL OF MEDICINE,
Baltimore, Md., January 25, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House Office Building, Washington, D.C.

DEAR CONGRESSMAN HARRIS: Reference is made to your statement that deans of medical schools in attendance at the hearing on H.R. 4999 on the afternoon of January 24, 1962, were invited to submit a statement for the record if they so desired.

I would like to support the statements of Dr. Donald G. Anderson, Dr. Robert C. Berson, and Dr. Thomas B. Turner. In addition, I would like to submit a statement in reference to the question raised by Congressman John Bell Williams, of Mississippi: Namely, "Why is support of medical education a national responsibility?"

It is both a State and National responsibility. National responsibility exists for a number of reasons. They are:

A. Eleven States have no medical schools and three States only provide the first 2 years of medical education. While increased tuition is charged nonresident medical students it does not cover but a fraction of the costs. If tuition was increased for nonresident students to cover costs, it would be so high practically none could attend. States without medical schools or only 2-year schools have inadequate or no policies that have been effective in providing costs to schools where their residents attend medical schools. Some Federal action appears to be necessary to provide this support in a reasonable period of time.

B. The Federal Government uses a large number of physicians, and other than in the field of research provides no funds for their education in medicine.

C. National defense loan funds are allocated to universities on the basis of enrollment. The medical school has such small enrollments that when funds are allocated on this basis within the university the loan funds are totally inadequate to meet needs in the medical school. In a recent survey of the medical school classes of this medical school the aggregate of loans being carried by all students as of June 1961 was $229,818. (See enclosure.) Much of this money had to be borrowed at interest rates of 6 percent or higher. The students still have 2 to 5 years of medical education to finance, and the income they can earn as interns and residents in hospitals will on the average be considerably below living costs.

D. Considering weapons of mass destruction that will probably be used in any future major war, the ability to stand up to such an attack and recover from it will depend much more than ever before on the number and quality of physicians available to control disease and treat casualties. A 10- to 20-percent

second-degree burn is usually not fatal. Fifty to one hundred roentgens of general body radiation is not fatal. The combination of minor injury and sublethal radiation can be fatal up to 60 percent if the infection that usually follows cannot be adequately treated. An adequate number of well-educated and trained physicians is vital to our national defense.

In reply to your questions and that of Congressman Harold R. Collier, of Illinois: "Are the medical schools through H.R. 4999 trying to increase the number of medical school applications and could not this be done by better public relations?"

Better public relations are always helpful but this is not believed to be a key factor. Two significant studies of individuals at the age when they were choosing careers have been done:

1. O'Dowd, Donald D., and David C. Beardslee, "College Student Images of a Selected Group of Professions and Occupations" (cooperative research project No. 562 (8142), U.S. Office of Education, Department of Health, Education, and Welfare, April 1960, pages 26, 32, and 33.

2. Department of Defense study on career preferences of young people of military age, 1961.

Both of these studies show that the career of the physician is considered most desirable of all careers available.

It is not believed that better public relations could materially change this picture. Financing of medical education appears to be the real deterrent to selecting medical education and a medical career.

In reference to your statement "We should allow all individuals with a desire and the ability required to enter a profession," I would concur. Aside from the financial aspects, I believe we are now affording individuals such an opportunity. It must be appreciated that desire and ability are being measured from the time an individual enters premedical studies. The grades earned and the opinions of the faculty teaching the individual are used as measures of ability. As would be expected, many students change their minds for various reasons and some do not measure up. If sufficient laboratories in medical schools were available at this time to admit all the applicants this year that were refused admission, it is not believed it would be a rewarding experience. All really qualified students are being admitted to medical school. At this time some of those admitted are such border-line students that a high percentage of them fail. Further, they require so much faculty time in an attempt to get them to a passing level that in some instances inadequate faculty time is devoted to the better students. If we increased the number of poorly qualified students in medical school, it would be detrimental to the whole program in medical education. The time to eliminate poor students is at the end of the premedical period, not after they enter medical school. This allows individuals with poor to mediocre records to choose another field of endeavor where they can make a better contribution.

What the medical schools need are more well-qualified students, not numerical increase in applicants. Increase in population numbers will bring this about to a certain extent, but the financial requirements deter many good students that would choose a medical career if they could finance it. There is substantial shopping around through the medical schools for scholarships by medical school applicants. Because of the small number of scholarships and great overall costs, many students, after exploring the cost of medical education, enter other fields.

Sincerely,

WILLIAM S. STONE, M.D., *Dean.*

AMERICAN LIBRARY ASSOCIATION,
Washington, D.C., January 22, 1962.

Hon. OREN HARRIS,
Chairman, House Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR MR. HARRIS: Attached is a copy of a statement which was prepared by Frederick Kilgour, librarian, Yale Medical Library, for the American Library Association. We would appreciate it if this statement could be made a part of the printed record of hearings before your committee on H.R. 4999, the Health Professions Educational Assistance Act of 1961.

Sincerely yours,

GERMAINE KRETTEK, *Director.*

STATEMENT BY FREDERICK G. KILGOUR, LIBRARIAN, YALE MEDICAL LIBRARY, NEW HAVEN, CONN., FOR THE AMERICAN LIBRARY ASSOCIATION

Mr. Chairman, gentlemen of the committee, my name is Frederick G. Kilgour, and I am librarian of the Yale Medical Library. As a representative of the American Library Association having 25,000 members, I would like to inform you of the association's recommendations for action on H.R. 4999, the Health Professions Educational Assistance Act of 1961. In brief, I can say that the association requests that your committee make a favorable report on H.R. 4999.

The association continues to be concerned with assuring increasing library contributions to the national welfare and security including, of course, our most important resource, namely, health. The association supports H.R. 4999 because it believes that this bill will effectively stimulate much needed construction, renovation, and equipping of medical libraries as a necessary area in health, research and teaching facilities.

Medical education and medical research without medical libraries is unimaginable. Yet Federal funds have not been available to medical libraries during the period of tremendous expansion of research. In fact, Federal moneys have been so successful in stimulating research that there has been a powerful impact on libraries forcing them into desperate circumstances.

Research programs have trebled and quadrupled the numbers of library users, and at the same time, have immensely increased the amount of medical publications which libraries must have on their shelves. Multifold expansion in numbers of volumes and users has generated serious inadequacies for libraries, and inadequate space for readers, books, and staffs has become a critical deficiency requiring expensive correction. H.R. 4999 will enable libraries to expand physically so that they can furnish effective services thereby increasing the advances of health programs.

The association, therefore, supports the objectives of H.R. 4999 and requests your committee to render a favorable report on the Health Professions Educational Assistance Act of 1961.

STATEMENT OF DR. HAROLD C. WIGGERS

Mr. Chairman, I am Dr. Harold C. Wiggers, dean of the privately supported Albany Medical College of Union University, situated in Albany, N.Y. Founded in 1839, the medical college is the core of the Albany Medical Center which services approximately 2 million residents of the surrounding 18 counties.

In 1961, 62 percent of its 243 students were residents of New York State, the remaining 38 percent claiming 20 other States and foreign countries as home. These students graduated from 77 different colleges and universities. The size of the entering class is 60; transfers are admitted into the second- and third-year classes.

The extensive growth of the institution is reflected in the significant increase in the faculty, student body, and nonprofessional employees during the last decade and, particularly, in the annual expenditures, which have increased from less than $400,000 in 1951 to approximately $3,410,000 in 1961. Of the latter, general budgetary expenditures were $1,650,000 and research expenditures $1,760,000. This great augmentation of activity has occurred despite the fact that the majority of operations are being conducted in a building constructed in 1928, plus a very small addition which was completed in 1951.

To state that our greatly expanded efforts in research, education, and patient care responsibilities are carried out in cramped, overcrowded, inconvenient, outmoded, and even unsafe space and facilities is the greatest of understatements. In particular, our teaching outpatient clinics, though renovated, are grossly inadequate and most inconvenient for the scheduling of teaching programs. We are enthusiastic about that portion of H.R. 4999 which might enable us to construct modern teaching clinic facilities of adequate size to accommodate the increasing number of teaching patients. Currently, we could not handle a larger class in our clinics.

Needless to say, the overcrowding of our existing physical plant has handicapped the college in its attempts to acquire outstanding faculty members and medical students. I am happy to relate that a $5 million medical science building is in the process of construction. Even when available in July 1963, the col-

lege will still be lacking a satisfactory medical library facility (the core of research and educational programs), an auditorium to enable us to convene either the entire faculty or student body and appropriately designed teaching clinics. Nor will the college be able to enroll any additional medical students. The 27 percent of the building oriented for administration and teaching will only provide adequate space and facilities for our current student body. The remaining 73 percent of the building is designed for research in order to take full effect of matching funds providing only for that purpose by the Health Research Facilities Construction Agency. Should the medical college decide to augment its student enrollment it would be required to construct additional teaching facilities. To do so, in view of our current indebtedness, the college would require the 66⅔ percent matching funds which the Health Professions Educational Assistance Act provides. This explains one reason why Chancellor Davidson and the board of trustees and the faculty and myself enthusiastically endorse passage of H.R. 4999 during this session of Congress.

The Albany Medical College is even more interested in that portion of H.R. 4999 which provides for scholarship grants to schools of medicine as well as the associated "cost of education" payments to schools receiving grants. We are of the opinion that the formula for the awarding of these grants and payments has been soundly conceived.

Inasmuch as we process and interview for admission more applicants per available place in the class than any other medical school in the country, we have gained a rather broad perspective as to what has been happening to the number and quality of medical school applicants during the last 5 years. We are not only disturbed, but actually alarmed about the steady decline in quantity and quality of applicants. Though concerned with both, it is our studied opinion that the dropoff in quality is more dangerous, since the quality of the product of any medical school is directly determined by the quality of those who are admitted. Within a comparatively few years our annual applications have dropped from 1,800 to less than 1,000. Even considering the fact that our applicants usually apply to many schools, it is a sad commentary that we are unable to obtain 60 truly qualified and satifactory candidates from nearly 1,000 applicants. If we had sufficient space for more students in our classes today, we wouldn't fill them because of the poor quality of the applicants. The situation is not only pathetic, it is dangerous, for it portends a drastic reduction in future standards of medical practice, education, and research unless drastic measures are immediately adopted to interest better students in the pursuit of a medical career.

Time precludes elaboration of the many factors concerned with the decline in the interest of outstanding students in the study of medicine. On the basis of experience, it is evident that the heavy cost of obtaining a medical education, especially when superimposed upon the cost of 4 years of college education, is a major deterrent. The outlook to a potential applicant who comes from a family of mediocre or poor income is bleak and selfish. It seems fairer and certainly easier for them to embark upon a well-subsidized training program in one of the other sciences or on a business career which promises immediate income and the possibility of early marriage. Many applicants have withdrawn from the medical college when it became necessary for us to reject their pleas for minimal scholarship aid because of our greatly inadequate scholarship funds.

I will not be naive enough to proclaim that mere enactment of the scholarship grant program as provided in H.R. 4999 will resolve all the problems in relation to recruitment of an increased number of qualified applicants for the study of medicine. There is no doubt that it will have a significant positive effect. I will, on the other hand, predict that unless this major bottleneck—the financial support problem—is removed by a scholarship grants program, no other measures will pay dividends in increasing the supply of outstanding and satisfactory applicants for medicine. The result will be that the demands for an increasing number of physicians simply will not be met. Since Federal scholarships are the crux of the problem, it would be most imprudent to delay for another year the impetus which can do the most to increase the flow of good medical applicants.

Increased and adequate scholarships help will become more significant as my college takes necessary steps to augment rates in order to help meet increasing operational costs. Currently, tuition fees at Albany Medical College provide only 18 percent of the income needed to meet annual budgetary expenses. It is no longer possible to operate on the basis of obtaining 82 percent of the income

from other sources, especially when invested funds can only provide 12 percent of the required annual income. Soon this will be further reduced as we utilize invested funds to meet the cost of our new medical science building. For this reason, the Albany Medical College not only favors, but actually depends for maintenance of current standards upon the provisions of H.R. 4999 which guarantees scholarship grants and cost of education payments. Without this legislation, rising tuition in private medical schools will discourage even more students from applying for admission.

Although I have concentrated on a few provisions of H.R. 4999 which are vital to the future of the Albany Medical College and its products, the school endorses heartily all aspects of H.R. 4999. We know that all of its provisions will be helpful to all the Nation's medical schools and to those who may become interested in applying for admission.

This bill, if enacted, would help the Albany Medical College avoid certain financial pitfalls ahead which could lead to lowered standards of research, education, and patient care. Hence, the Albany Medical College wishes to go on record as enthusiastically endorsing enactment of the Health Professions Educational Assistance Act as outlined in H.R. 4999.

STATEMENT BY DR. MARK R. EVERETT, DIRECTOR AND DEAN, UNIVERSITY OF OKLAHOMA MEDICAL CENTER, OKLAHOMA CITY, OKLA.

The privilege of presenting a statement to this committee is greatly appreciated. H.R. 4999 is a truly progressive, vitally important, and timely attempt by Members of Congress to provide tangible aid and encouragement to our schools of medicine, dentistry, osteopathy, and public health. The task of such schools to maintain and increase the output of capable health personnel, in ever-increasing numbers, is indeed a difficult assignment.

There have been sufficient studies and national discussion of the present inadequate financing of medical schools. The resulting national picture is a summons for commencing action. The details incorporated in H.R. 4999 appear to me to be wise and helpful steps. Parts A, B, and C of the act are all designed to provide assistance to medical schools for several very serious problems. Part C, especially, recognizes that all of these schools need assistance according to the number of students they are educating. An effective solution of the problem of training increased numbers of physicians in the future must be based on such principles, rather than on extraneous matters or contentions. In my opinion, based on a graphic knowledge of the major financial struggle being experienced by the majority of schools of medicine in the United States, a situation exists which is very grave, and which cannot be overlooked if the supply of capable physicians is to be maintained and increased materially.

I wish, therefore, to respectfully urge that H.R. 4999 be supported with conviction by all who have the opportunity to take a position on it. The aid which this act proposes to schools that develop health personnel demonstrates your judicious interest in the future health status of the American community. It will further indicate to the Nation that its representatives share the people's desire to support medicine as one of the world's two greatest concepts of mercy.

Thank you.

GENERAL STATEMENT

As was so forcefully and logically brought out in Secretary Ribicoff's statement to the committee, our Nation is falling behind in the required rate of training of physicians. Medical education in America is at a critical point, which invites deliberate and thoughtful action by Members of Congress if the needs and requirements of the American people are to be met. Because of many scientific advances, medical education has increased in extent and complexity, causing the gap to widen between the cost of offering it and the ability of local agencies to support it completely.

The States are faced with heavy demands for funds to improve general education and they view medical education as something of considerable national importance which transcends State borders.

H.R. 4999 proposes (1) assistance in constructing and modernizing teaching facilities by means of grants. The medical schools have the burden of constructing teaching hospitals and clinics and medical libraries, as well as the usual school facilities, and they need grants to assist them in these various

respects. This act will also (2) provide scholarship grants to assist medical students in their training which is longer than that of most scientists and therefore more expensive to students. If these students had chosen to take graduate study in sciences other than medicine, they would have scholarships of $2,000 per annum from both Federal and private sources. The passage of H.R. 4999 would be a concrete indication that Congress is interested in the aspects of medical education which bear directly on the training of more physicians.

HOW H.R. 4999 PERTAINS TO OKLAHOMA

As you know, the University of Oklahoma School of Medicine has been granting the M.D. degree for 51 years. As recently as 10 years ago our school of medicine faculty realized the urgency to double the size of its classes in the face of the State's need for physicians. We began admitting 100 medical students per year. Since it has required all of the intervening time to secure anything like a comparable increase in the operating budget of the school, we have had to curtail every aspect of new construction and modernization and have been unable to set up scholarship funds.

Our State legislature was not insensitive to the need for new construction and they did, for example, provide funds for an additional wing for the teaching children's hospital, which provided 40 additional beds, and another wing of the main hospital to contain 60 psychiatry beds. In the financial struggle to both construct and operate these facilities, it required almost 4 years to activate the beds in these two essential additions. We face similar problems today and need construction grants that we can both build and operate the schools facilities.

Our medical school must now accommodate all of its past enterprises plus expanding areas for medical research necessary for the welfare of the American people.

The alumni of our school of medicine has formulated a 10-year development program for the University of Oklahoma Medical Center which will require the expenditure of approximately $15 million. The regents of the university have approved the program which includes the building of a new 600-bed teaching hospital. Architectual studies have been made and the State has provided an initial $1 million for the project together with $200,000 for the purchase of land. You can realize how much it will mean to Oklahoma in this program if matching construction funds for teaching facilities are made available by Congress according to H.R. 4999.

The scholarship funds proposed in H.R. 4999 will also mean much to our State. At our school of medicine two-thirds of the student body is married, there is no university housing facilities for medical students, and this fall we were able to offer only two scholarships to our student body of 385 medical students. Again, I would respectfully urge that serious consideration be given to this bill and that all contentions not directly related to the problem be submerged in a desire to help the medical schools of America surmount their difficult circumstances.

AMERICAN NURSES' ASSOCIATION, INC.,
New York, N.Y., January 22, 1962.

HON. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce, U.S. House of Representatives, House Office Building, Washington, D.C.

DEAR MR. HARRIS: The American Nurses' Association wishes to record its support of both scholarship and construction provisions of H.R. 4999 (Harris, of Arkansas), H.R. 8774 (Staggers, of West Virginia), and H.R. 8833 (Bennett, of Florida)—training of physicians, dentists, and professional public health personnel. We recognize the urgent need for increasing the numbers of medical, dental, and public health personnel, and we believe that the Federal Government has a distinct responsibility in the entire area of higher education.

The American Nurses' Association has testified in favor of all legislation proposing Federal financial aid for higher education and in April 1958, and June 1960, supported bills similar to those being considered at this time. In previous testimony we requested that the legislation be amended to include graduate education in nursing in those 43[1] schools offering master's degrees in nursing

[1] "Facts About Nursing," p. 116, table 8 (1961 ed.).

education other than public health nursing. We interpret the bills now being considered as including nurses enrolled in graduate programs in schools of public health.

The essential role of the nurse in the health team makes the consideration of this amendment by your committee imperative. Action by the Congress in support of education for health personnel is long overdue. Even if the legislation is passed by this Congress, a decade will pass before any real benefits will be derived from this assistance program. According to the Bane report, "Physicians for a Growing America" (1959), the country is falling farther behind every year in maintaining an adequate supply of medical, dental, and public health personnel.

We have, for many years, brought to the attention of this committee the great need for Federal financial assistance to nursing education; the inadequate facilities for preparing the numbers of nurses required to meet the present expanding needs; and the shortage of qualified educators and administrative personnel. At present it is estimated that less than 2 percent [2] of employed professional nurses in this country have master's degrees—a minimum requirement for teaching in any other field of higher education. The graduate nurse traineeship program, authorized by the Health Amendments Act of 1956, has had a marked impact on this problem but even with this program only 1,197 [3] nurses received master's degrees in 1960.

Because of the many scientific advances there must be more highly skilled nurses in the clinical specialties. Nurses who assist in the treatment and care of persons who have had heart surgery, who work with the programs in space medicine, who work with patients receiving treatments with the radioisotopes, and who work in psychiatric nursing, must be expert practitioners. The nurses who direct or work in these complicated services should be prepared in graduate education programs.

However, the urgent need in nursing at this time, if we are to meet the demands of the present and immediate future, is aid to basic collegiate education. Representative Staggers, a member of this committee, has introduced bills in both the 86th and 87th Congress for this purpose. H.R. 5682 would provide aid for construction, instruction and scholarships for baccalaureate programs in nursing. At present about 80 percent of nurses graduate from hospital nursing school diploma programs. Before they are eligible for study on a master's level, they must spend 2 to 3 years in a college or university in addition to the 3 years spent in a hospital school of nursing to acquire a baccalaureate degree; whereas the collegiate student can receive a B.S. in 4 years. With the supply of all health personnel in great demand, the country can ill afford waste of productive years.

The general population expects and demands the services which their hospitalization and health insurance will buy for them; and they expect these services to be of a high quality. If our citizens are to be provided with the amount and quality of health care which they have learned to expect, it is vital that this legislation be enacted during this Congress.

Very sincerely yours,

(Mrs.) JUDITH G. WHITAKER, R.N.,
Executive Secretary.

BRANDEIS UNIVERSITY,
OFFICE OF DEAN OF FACULTY,
Waltham, Mass., January 18, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce, U.S. House of Representatives, House Office Building, Washington, D.C.

DEAR CONGRESSMAN HARRIS: It has come to our attention that your committee will soon be holding hearings on H.R. 4999, the Health Professions Educational Assistance Act of 1961. I am writing now to convey to you the great interest of Brandeis University in this bill and to urge you and your colleagues to support its enactment most vigorously.

We believe that enactment of this legislation is in the best interests of the United States and is urgently required. There is no doubt about the fact that this country is rapidly falling behind in its production of physicians and medical scientists. There is likewise no doubt that more persons trained in these

[2] "Facts About Nursing" (1961 ed.), p. 109.
[3] "Facts About Nursing" (1961 ed.), p. 114, table 6.

fields are needed if we are to continue to provide the people of this country with adequate medical care, including preventative care, and to continue our research efforts toward understanding and conquering the diseases which still plague our people. In addition, of course, there is little doubt but that this country will be called upon to take leadership in assisting the many emerging nations with respect to medical techniques, medical care and medical research. All of these, taken together, point to an unquestionable need for more doctors and medical scientists and for added facilities and institutions for their training. And it is equally certain that the universities cannot do these things unless financial aid is forthcoming. Thus, we believe that enactment of H.R. 4999 is urgently required.

I am certain that you know that approximately 800 additional physicians and medical scientists could be produced each year by our existing 4-year medical schools if there were available a pool of students who had received the first 2 years of medical instruction elsewhere. This is so because one of the bottlenecks in medical training is the limited amount of space available for the first 2, or preclinical, years of medical instruction. As has been reported, this situation could be alleviated by creating new 2-year medical schools or basic medical science training programs to provide the preclinical training for such a pool of students. Although this would not entirely solve the problem of our growing shortage of physicians and medical scientists, it would certainly be of considerable help, because each year's graduating class would be increased by at least 10 percent. An additional benefit would be, of course, that simultaneously there would be created that many additional centers of basic medical research, a very desirable development.

With the view toward attempting to contribute to the alleviation of this problem, Brandeis University is currently making an intensive study of the feasibility of initiating a program of training in the basic medical sciences. The aim of this program is to provide thorough training in the fundamental sciences and in the basic medical sciences equivalent or, if possible, superior to that afforded by our best conventional medical schools.

With the aid of an advisory group of experienced educators drawn from leading U.S. medical schools and a grant from the Commonwealth fund, we are preparing plans for a program which will, we believe, provide the very finest training to students who, when they leave here, will be acceptable for admission to the third year classes of the best medical schools of the country. Our target date for admission of the first group of students is September 1963, and our present expectation is that, when the program reaches maturity, 40 students will complete their training here each year.

One of the real questions in our minds is whether or not we can afford to initiate such a program. In order to conduct the program properly, it will be necessary for us to construct facilities which we estimate will cost at least $5 million and to acquire equipment to the extent of at least $1 million. In addition, we estimate operating costs will be about $2 million per year. A significant proportion of this would be for student aid, which we consider most important, particularly since our plans call for students being in attendance for 11 months per year. They will thus be precluded from earning money during the summer and, accordingly, will require even more scholarship aid than usual. Thus, in order to carry out our plan, we will require an initial investment of $6 million or more and thereafter an annual expenditure of almost $2 million. Whether we can do this without assistance is most problematical. It is obvious, of course, that passage of H.R. 4999 will be of great interest to us, for it will afford us the possibility of obtaining significant aid in constructing the needed facilities as well as some assistance toward the student aid we will require.

It may be helpful to you to have a brief statement about our university, particularly in view of the statements above about the financial problem of initiating the new program we are planning. Although a young institution, now only in its 14th year, Brandeis University has grown and developed rapidly and now has a significant program of education at the undergraduate, graduate, and postdoctoral levels. Undergraduate enrollment at present is limited to 1,400, including 80 students from 33 foreign countries. Applications for admission outnumber available space by about 7 to 1. Admissions standards are high, and we believe the scholastic abilities and achievements of our students compare favorably with those of any other institution in the country.

Our graduate school, begun about 6 years ago, is growing rapidly. We now have doctoral programs in 14 departments and we are adding about 1 new graduate program per year. We have an enrollment of over 430 graduate stu-

dents who come to us from 117 colleges and universities in 31 States and 24 foreign countries.

We have one professional school, the Florence Heller Graduate School for Advanced Studies in Social Welfare, which, though initiated only 3 years ago, is already functioning in an extremely successful manner. It admits only advanced students who already have the master's degree and continues their training to the Ph. D. level. Although its first Ph. D. degrees were awarded only last June, its methods are already being adopted at other institutions.

Our faculty numbers approximately 250 full-time persons, thus providing a very high faculty-to-student ratio. A very large proportion of the faculty have been widely recognized for their scholarship, intellectual achievement, and community service. In addition to our regular faculty, many of our advanced graduate students serve as teaching assistants during part of their stay here. Over and above these, we have about 100 postdoctoral fellows, research associates, visiting scholars, etc., in residence who are receiving additional training and research opportunity here.

Starting 13 years ago with a tract of land and 3 old buildings, we now have a fine campus with more than 50 modern instructional and research buildings erected at a cost of more than $25 million. As we continue to grow, we must continue to add to our physical plant. For example, we now have on the drawing boards 13 building projects, which involve an expenditure of about $12 million. Thus, we are undertaking a great deal, and our finances are stretched to an extreme limit.

Altogether, we are quite proud of our accomplishments thus far. Although very young, we believe this university has achieved a considerable reputation as a very high quality educational and research institution. For example, we have recently been granted a Phi Beta Kappa chapter, one of the youngest institutions ever to have been so honored. We have a very active and productive research program, which, exclusive of faculty salaries, involves an expenditure of about $2 million per year. Much of the ongoing research is in the health-related sciences.

All of this has been accomplished in 13 years and without the aid of significant initial endowment or of appropriations from any State or municipal body and with an alumni group as yet too young to contribute significant support. In this time, we have not only built the physical plant and campus but, more importantly, we have assembled a faculty of fine teachers and scholars, and we are able to attract a select student body of great potential. We believe we are rendering a very important service to the Nation through providing high quality education and productive research.

In toto, we believe we have demonstrated our willingness to lift ourselves by our bootstraps toward the goal of superior educational accomplishment, intellectual achievement and community service. We believe most strongly that we can do an equally fine job in training students in the basic medical sciences; students who can go on to the final 2 years of medical training at other institutions and who, upon graduation, can contribute significantly to the welfare of the Nation as physicians, medical researchers, and teachers. But to do this, particularly for a young institution like ours which does not have any stable financial resources of its own, requires some help. This kind of help can come through the provisions of H.R. 4999 which, if enacted, will provide an opportunity for us, as well as for other institutions, to make even greater contributions to the welfare of this country.

I should like to add this final statement. Regardless of whether or not Brandeis University does decide to initiate a basic medical sciences program, we urge your support of H.R. 4999. As stated above, we believe most sincerely that this legislation will be of great benefit to the interests of the Nation and to the welfare of its people. There is no question in our minds but that this is urgently required legislation. We ask you and your colleagues to give it your most vigorous support.

Sincerely yours,

LOUIS LEVIN, *Dean of Science.*

VETERANS' ADMINISTRATION,
OFFICE OF CHIEF MEDICAL DIRECTOR,
DEPARTMENT OF MEDICINE AND SURGERY,
Washington, D.C., January 18, 1962.

Hon. OREN HARRIS,
House of Representatives, Washington, D.C.

DEAR MR. HARRIS: As chairman of the Interstate and Foreign Commerce Committee, you will preside over hearings on H.R. 4999, certain elements of which interest me greatly as a private citizen.

Before coming to Washington as the Chief Medical Director of the Veterans' Administration, I served on the medical faculty of the University of Wisconsin for some years and was dean of the medical school for 20 years. The University of Wisconsin has profited greatly through the support of research and research construction in several respects. The dividends on these investments will undoubtedly be collected by the American people and humanity at large for years to come.

In a somewhat more specific vein, I am interested in the support of medical libraries. Not only is this a general weakness in our system and in governmental support but the fault may seriously impair both medical education and research. That I may not be flying under false colors, I should like to indicate the crying need at the University of Wisconsin Medical School. By dint of great effort on the part of friends and graduates of the medical school, some $560,000 have been collected. This sum will not meet the construction requirements; but, in my judgment, it is the type of commendable effort that could, in fairness, could be speeded to its proper end by matching funds.

Should you be interested, I would make myself available to you for a personal conference at your convenience.

Respectfully yours,

WILLIAM S. MIDDLETON, M.D.

THE UNIVERSITY OF NORTH CAROLINA,
SCHOOL OF PUBLIC HEALTH,
Chapel Hill, January 18, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR REPRESENTATIVE HARRIS: I am writing to express my deep interest and concern in the passage of H.R. 4999, the teaching facilities construction bill, which I understand is coming before your committee for hearing shortly. My endorsement of this bill is based upon my intimate knowledge of the tremendous and increasing shortages of graduate trained public health personnel in all of our 50 States.

The 12 schools of public health which presently exist are regional schools serving not just their States and regions but all of the United States. A large proportion of our training is done for people employed in the Federal Government—Army, Navy, Air Force, Public Health Service, Children's Bureau, ICA, AID, etc. It would, therefore, be obviously unfair to ask the taxpayers of the State to provide the teaching facility for the training of three-fourths of the students attending our school who come from out of State and return to work out of State; they are largely federally sponsored students.

Our facility cannot be expanded to increase education and training for public health personnel without substantial Federal support for both teaching and research. There is little point in Congress providing increased funds for health services, facilities, and research unless adequately trained personnel can also be provided, to provide the services and facilities and to do the research.

I hope you and your committee will act favorably upon this bill and request that this letter be included in the record of the hearing.

Sincerely,

E. G. MCGAVRAN, M.D., M.P.H., *Dean.*

UNIVERSITY OF CALIFORNIA,
SCHOOL OF PUBLIC HEALTH,
Berkeley, Calif., January 17, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR CONGRESSMAN HARRIS: I am deeply regretful that I shall not be privileged to appear in direct testimony at the hearings on H.R. 4999, so important for the health of our Nation. Fortunately, at the hearings our schools of public health will be most ably represented and specifically Dean Myron Wegman will testify regarding the special problems of our five State-supported national schools of public health to complement the testimony of Drs. Stebbins and Leavell in behalf of the privately supported schools and of our association. I shall be grateful if you will include this letter in the record of the hearings on H.R. 4999.

Having served on the Surgeon General's Consultant Group on Medical Education which also included brief consideration of needs for dental education, I am acutely aware of the pressing need for passage of H.R. 4999 to aid in building of more medical and dental schools, to provide scholarships for students, and to aid in the costs of the operations of the schools. Construction of facilities for research must be complemented by construction of teaching facilities to prepare research workers and both are needed to provide medical and dental services (including future public health leaders) for our burgeoning population. However, the construction needs in our schools of public health are even more acute. While each of the five State-supported accredited graduate schools of public health has its individual problems with respect to its unmet space requirements, they share common difficulties in solving them. All of our schools of public health, private and tax-supported, are national and, because of fellowships of ICA and WHO, international schools. Especially since the passage of the U.S. Public Health Service Traineeship Act of 1956 and the resultant stimulus to national public health recruitment, the State taxpayers who support the State schools have been carrying a disproportionate share of a national responsibility. The enactment of the Hill-Rhodes Public Law 86-720 providing Federal aid to these national and international schools of public health for assistance in teaching these expanded classes has brought a degree of alleviation to the schools and some equalization for the taxpayers of State-supported schools. No comparable support exists for medical and dental schools. However, even in our schools of public health the concomitant augmentation of faculty and auxiliary teaching personnel has accentuated already existing deficiency in space.

Our State taxpayers already have provided basic building requirements. Thus in 1955 the School of Public Health at the University of California in Berkeley occupied its new Public Health Building, Earl Warren Hall, with 43,000 square feet. While this met our needs in 1955, now our graduate student body has doubled. Some of our faculty members are forced to double up in occupancy of rooms and we have had to resort to rented space both for instruction and for research. Indeed, there are needed teaching programs which we cannot provide because we cannot house them.

Scholarships to encourage and support students for careers in medicine and dentistry without overwhelming burdens are necessary if we are to provide the doctors and dentists needed in our country. Each of our State universities is faced with the overwhelming problem of providing educational opportunities for our exploding population. To provide higher education, California taxpayers must greatly expand their junior colleges, State colleges and state-wide university. In the university system the existing five general campuses must be expanded and three more major campuses of the size of Berkeley and of Los Angeles be built. These demands stretch the resources of our State to their limits. Comparable demands face the taxpayers in our other States as well.

Moreover, in our own State of California we must expand our two tax-supported medical schools and establish from one to three, and, some would say, five or six more medical schools in order to maintain the medical services of our State's population at their present level. An equal need is present for expanding the dental schools. The proposed legislation by assisting in the operating costs is equally essential.

In summary, H.R. 4999 will provide assistance in construction for the necessary expansion of schools of medicine, dentistry, and public health. Moreover,

it will go a significant way in meeting needs for scholarships in medicine and dentistry and for support of operating costs in medicine and dentistry which, to a degree, have been provided with such great value for schools of public health.

Thus, the favorable consideration of H.R. 4999 is a matter of major importance to all of us in the field of the health sciences.

Sincerely yours,

CHARLES E. SMITH, M.D.
Dean, School of Public Health,
President, California State Board of Public Health.

THE UNIVERSITY OF TEXAS,
Austin, Tex., January 18, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR CONGRESSIONMAN HARRIS: H.R. 4999 contains provisions which if implemented, should meet pressing needs in the preparation of practioners in the health sciences.

The Legislature of the State of Texas, moving to forestall a threatened grave shortage of physicians, has authorized the University of Texas to establish a new medical school, the South Texas Medical School, in Bexar County (San Antonio). It will graduate an additional 100 physicians each year. Physical facilities for this school will require an initial investment approximately $25 million at the very least.

In addition, each of our two other medical schools—the University of Texas Medical Branch at Galveston and the University of Texas Southwestern Medical School at Dallas—are in sore straits for physical facilities to accommodate their present loads of teaching and essential research. To cope with the demands placed upon them we estimate a minimum physical plant additional investment of $15 million will be required by 1970, in addition to approximately $7 million in new construction currently in process.

The capital investments already outlined take only modest cognizance of increasingly imperative necessities for the education of additional dentists and the professional specialists demanded in modern health practice. Nor do they reflect adequately the research endeavors which must now undergird and accompany the education of practitioners.

Operating costs for medical and dental education are high. To provide these alone, the State of Texas must anticipate an annual additional load upon its budget of $6 to $10 million in the period between now and 1970. In the same period, it must shoulder vastly increased sums for the operation of other units of higher education and additional very large sums for housing its colleges and universities. These realities dictate our conclusion that essential physical facilities for medical and dental education in this State can be provided only through the shared financing arrangements proposed in H.R. 4999.

Specifically, we do not see how the South Texas Medical School can be activated by its target date of 1964 unless construction grants of the character proposed in part B of H.R. 4999 become available almost immediately.

Sincerely yours,

HARRY RANSOM, *Chancellor.*

UNIVERSITY OF PUERTO RICO,
SCHOOL OF MEDICINE,
SCHOOL OF TROPICAL MEDICINE,
San Juan, P.R., January 19, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: The School of Public Health of the University of Puerto Rico strongly endorses H.R. 4999 (the teaching facilities construction bill). This school has an average annual enrollment of 90 fulltime students, of whom some 45 percent are from Latin America.

Although the school is bilingual, because of the Latin Americans, the language of postgraduate instruction is in Spanish.

There is no other North American school so badly in need of new physical facilities, inasmuch as we are still housed in the temporary quarters of the former school of tropical medicine. Classroom space must be arranged each year on an expediency basis through arrangement with the school of medicine, whose basic sciences occupy the same building. Some instructors have to double up in small offices. In fact, lack of space is a deterrent to recruiting additional staff.

Consequently, in view of the foregoing, we hope your bill can be favorably reported, and we trust this letter can be recorded in the record of the hearings.

Sincerely yours,

NELSON BIAGGI, Ph. D.,
Acting Head of the Department.

THE AMERICAN PUBLIC HEALTH ASSOCIATION, INC.,
Washington, D.C., January 22, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
New House Office Building, Washington, D.C.

DEAR MR. HARRIS: I wish to submit to you the accompanying statement made in behalf of the American Public Health Association for consideration by your committee relative to your hearings on H.R. 4999. It would be further appreciated if this statement could be made a part of the official record of these hearings scheduled for January 23–26, 1962.

Thank you.

Yours truly,

BERWYN F. MATTISON, M.D.,
Executive Director.

STATEMENT OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

As this Nation's largest representative of those presons engaged in the prevention of illness and disability, the American Public Health Association is pleased and grateful for this opportunity to present testimony on legislation proposed to increase this Nation's skills and ability to better her people's health. The APHA is composed of 13,000 members with an additional 20,000 members of State affiliated societies. These members are almost exclusively persons whose full-time activities with official and voluntary agencies at local, State, and Federal levels are dedicated to the betterment of the individual's and the community's health. Our interest in and concern with the problem posed by insufficient numbers of qualified, well-trained physicians and dentists is self-evident.

It is the experience of our members, and particularly those charged with administrative responsibilities, that there is presently a serious lack of qualified personnel to press forward needed public health programs. Two categories where these shortcomings are most painfully evident are those of physicians and dentists. Similar shortages exist in other professional public health proficiencies, most notably nurses, and the necessity for increasing the abilities of this Nation's schools of public health, we believe, is of paramount importance.

In addition to the convictions which arise from our personal experience, we are further impressed by the commendably thorough and forthright documenting of our Nation's needs in these areas by careful and objective assessments made by well respected and recognized panels of persons expert in this field. This is certainly true in the case of physician needs for our Nation. The report of the Consultant Group on Medical Education, appointed by former Surgeon General Leroy E. Burney and chaired by Mr. Frank Bane, former executive director, Council of State Governments, contains a wealth of factual information which, we are sure, this committee will consider carefully. While the same figures and statistics may mean different things when given different interpretations, we believe the information both startling and somewhat frightening. According to this report, the ratio of physicians to population has increased from 134 per 100,000 in 1930 to 141 per 100,000 in 1959, but the latter is a slight decrease from the 143 per 100,000 in 1949. And when considering the needs of our people to secure the services of a private, practicing physician, this ratio has shrunk from 108 per 100,000 in 1931 to 91 per 100,000 in 1959.

We recognize and wholeheartedly approve of changes and vast improvements in medical practice which account in part at least for the lesser ratio of physi-

cians in private practice. Better service to patients with acute illness in hospitals rather than at home has resulted in a ratio of 1 to 6 physicians in full-time hospital service in 1959 in comparison with 1 to 16 in 1930. A survey in 1957 indicated 23,800 physicians were active full time in teaching, research, public health, industrial medicine, or the military—this compared with 6,400 so involved in 1931. An additional factor of importance to the patient is that in 1931 one out of every six physicians was a specialist. In 1940, this ratio has gone up to one in four, and in 1959 every other physician was a specialist. Despite an increase in the overall number of physicians, the general practitioner, internist, and pediatrician (those specialists generally considered available for general practice), numbered 117,000 in 1931, but in 1957 were but 102,000 strong.

What is the picture at present following marked changes in the methods of the practice of medicine, and what further efficiencies can be realized? In 1930, physicians saw an average of 50 patients per week. In 1959, this number had been doubled although 17 percent of all physicians see more than 40 patients per day. In 1930, 4 out of each 10 patients was visited in his home. In 1959, this had shrunk to 1 in 10. There is but slight room for further change in this direction. In 1959, the civilian population per physician ratio was approximately 100,000 per 100. It was estimated by the Bane group that the number of graduates from medical schools would have to be increased from the present 7,400 each year to 11,000 annually by 1975 if the 100 per 100,000 ratio is to be maintained. We are convinced that this must be done—in the light of increasing specialization; of the need for increasing numbers of physicians in wholly meritorious and vitally needed research, teaching, public health, and other activities; of the changing complexion of our population where, in particular, our older, aged population requiring more than normal medical care has and will continue to increase.

What are the problems confronting both the intending medical student and our Nation's medical schools? Why don't we have more physicians? Why can't medical schools increase enrollments and graduates? The reasons are many and varied and no panaceas are evident. For the intending student, tuition costs are high and the period of training long. Eight years of college must be followed by from 1 to 6 or more years of internship and residency or fellowship training. And unlike the day not too many years ago when the talented youngster had as a choice of professions the church, the law, or the healings arts, there is now a plethora of well-respected, remunerative occupations.

That adequate financial backing is deemed necessary seems evident in the fact that 40 percent of all medical students come from families with an annual income of $10,000 or more although this group comprises but 8 percent of our population. Financial support for the first-year student is practically nil, and the reality of competition from new vocations with the loss of monopoly on the budding scientific mind would have appeared to have resulted in something less than the best going into medical schools of late. In the 4 years prior to 1959, an increasing proportion of students were failing or withdrawing due to poor academic standing.

In the case of the institutions, training costs are high and going higher. In 1948, the cost for basic operation of our medical schools was $53 million. By 1958, just 10 years later, the cost had soared to $176 million. In 1941, tuition and fees made up 32 percent of the basic operation budget. By 1948, this had reduced to 23 percent, and in 1958 it accounted for but 13 percent. Public medical schools receive about 70 percent of their funds from State and local appropriations. But the apparent willingness of State and local governments to support medical education within their means to do so is varied. Furnishing 40 cents or more per $1,000 personal income is Vermont in the East; Arkansas, Mississippi, and Alabama in the South; Minnesota and North Dakota in the North Central area; and Utah and Oregon in the West. Some States and localities furnish no support.

There has been both direct and indirect support from the Federal Government. Contributions in the area of construction include a portion of the costs for hospitals through the Hill-Burton program, and research facilities and student dormitories from the college housing program. Federal teaching and training grants have shown a marked increase too. In 1948, these amounted to $2 million. In 1958, they totaled $14.4 million and were furnished by the U.S. Public Health Service, the Department of Defense, the Veterans' Administration, and the Atomic Energy Commission.

Referring now specifically to the needs of public health programs throughout the Nation, 28,600 professional public health workers were judged in 1958 to require some degree of additional training, including up to an academic year of attendance at a school of public health. It should be emphasized that this figure represents levels as they pertain to present-day circumstances of population, health programs, and health problems. Undoubtedly over the next decade, all three—population, problems, and programs—will increase appreciably. Therefore, without even projecting into the future, and allowing 10 years for elimination of the current backlog, facilities for training at least 2,500 students per year should be made available. During the past academic year, 1,346 students were enrolled in the 12 schools of public health in the United States. This compares with a figure of 1,331 for the previous year, and 1,401 for the year before that. Since approximately one-fourth of these students are from other countries, then at best we are preparing only about 1,000 public health workers per year. It is clear, therefore, that a doubling of facilities for teaching and training in schools of public health is indicated as a first and immediate step.

The schools of public health vary considerably in size of physical plant, from 10,000 square feet to 155,000 square feet, with an average of approximately 53,700 square feet. The number of square feet per student extends among the 12 schools from 164 to 1,782, with an average figure of 479. Some of the variability may be explained by the fact that each institution concentrates on a different subject or subjects, which imposes greater or lesser space requirements.

In other educational institutions where little if any laboratory facility is required, either for teaching or research, one might say that 479 square feet of space per student might be adequate for instructional purposes. However, schools of public health do not fall into such a classification. Public health students must have at their disposal several kinds of laboratories, such as chemistry, statistics and epidemiology, bacteriology, parasitology, graphic arts, industrial hygiene, and other subjects wherein practical work under supervision is essential.

It is safe to say that the number of public health students currently enrolled in schools of public health is far too small to make appreciable inroads into the backlog of training requirements in this country. Further, the facilities for the current enrollment are stretched beyond reasonable limits in most of these schools. In order to prepare now for the future, it is our belief that additional facilities are urgently required.

Reliable evaluation of this Nation's needs relative to dental services indicates a similar picture. The report of the Survey Commission of Denistry in the United States to the American Council on Education appears to us to be the result of a careful and objective study by a distinguished assembly of experienced and knowledgeable persons who made up the commission. Here again, it seems to us the findings of this group merit careful scrutiny.

The experience of having to wait 4 to 8 weeks for a dental appointment for anything but emergency care speaks more eloquently of the shortage of these practitioners than pages of statistics, but the following will provide some concrete index of our need.

The commission report published in 1960 pointed out that the current 90,000 dentists providing a ratio of 1 dentist per 1,900 population is sufficient to provide comprehensive dental care for but one-third of our population. To even maintain the present inadequate dentist-to-population ratio, it will be necessary to increase the number of practicing dentists to 134,000 by 1975. To accomplish this end, the rate of annual dental school graduates must be doubled by that date. To provide the facilities necessary for this objective, a total of $250 million is required for renovation and expansion of existing schools and construction of new schools. Only after such steps are taken can the present rate of 3,200 graduates annually be increased to the needed 6,000 graduates.

Numerous additional steps were urged to improve dental practice. As of the date of the study, 4,300 teachers in dental schools represented only 1,878 full-time teachers. Practicing dentists comprise 58 percent of dental teachers on a part-time, paid instructor basis. An additional 16 percent of the dental school faculties are constituted of practicing dentists who teach on a part-time, nonremunerative basis. Part-time teachers from both of the above categories comprise up to 85 percent of the instructors at some schools. The commission made strong recommendations that dental school support be obtained from alumni, benefactors, business, foundations, and from State and local governments, and that, in addition, the assistance of the Federal Government should be obtained for both construction of facilities and for operational costs.

In the light of the foregoing data, we believe steps should be taken to increase the number of physicians, dentists, and public health personnel. We believe that such an increase should be made without sacrifice to the present high quality of training provided. In 1960, the governing council of the APHA approved endorsement for appropriate Federal support to qualified institutions which train medical personnel for construction of needed facilities, for operational costs, and for scholarship aid for students. We believe H.R. 4999, if enacted, would provide a balanced, practical, and reasonable program to help meet these critical needs. We, therefore, support passage of this legislation. It is most important to begin the construction grant program immediately as an incentive both to replace or renovate facilities which are outmoded or beyond rehabilitation and to build new schools. We subscribe to the matching provisions—this should be another of the time-honored Federal-State partnership undertakings.

Likewise, we support scholarship aid for deserving students. It appears to us that this step must be taken to increase the attractiveness of a career in medicine or dentistry. Other Federal scholarship programs have in effect done much to price a choice of medicine out of the reach of all except those most favored financially. This is not a condemnation of the other scholarship programs. As the sciences progress, however, the competition can only increase. Incentives, therefore, should be equalized insofar as is possible.

The APHA also supports modest Federal support of operational costs. The marked increase in basic operational costs results, in the main, from the remarkable advances in medicine. Continued advance should be encouraged, not curtailed. Graduates are the better for improved teaching, facilities, and equipment. The patient is the ultimate recipient of the improvement, or the loser in the event progress is not continued.

We are of the firm opinion that this is a sphere of activity rightfully falling to the Federal Government. Insofar as this legislative proposal is concerned, we believe section 726 provides ample safeguards against any possible Federal interference or control over medical education. We applaud the lack of any directions that greater emphasis be placed on the training for particular areas in the health field. We are well acquainted with numerous joint programs in public health training and activities wherein the Federal Government is a partner with State and local health departments, institutions, and voluntary agencies in what we consider altogether wholesome and beneficial arrangements. We believe further that the Federal Establishment, and specifically the Congress, has contributed to the current and forthcoming dilemma. By appropriating funds for medical research and for the construction of research facilities, the Congress has made signal contributions to the discovery of new and dramatic medical knowledge. But by the same token, as the corps of researchers is increased, the number of potential private practitioners is decreased. By supporting advanced training in several other scientific areas, the Congress made more difficult the recruitment of high-caliber students for medical careers. Precisely how this imbalance is to be corrected is properly the concern of the Congress, but that the Congress has contributed to the problem, in our opinion, must be conceded.

The American Public Health Association appreciates this opportunity to present the views and beliefs of its members on this important legislation. We respectfully urge prompt action by the Congress in the passage of H.R. 4999.

CHARLOTTE, N.C., *January 20, 1962.*

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
House of Representatives,
Washington, D.C.

GENTLEMEN: It is my understanding that beginning January 23, 1962, your committee is to hold hearings on H.R. 4999, and related bills, which are designed to increase opportunities for the training of physicians, dentists, and public health personnel.

On behalf of the Imhotep Conference, an organization dedicated to the elimination of segregation and inequities in health matters, sponsored by the National Medical Society, the NAACP and the National Urban League, we wish to urge you to consider the insertion of nondiscriminatory provisions in this bill.

Nationally opportunities for the training of Negroes and others of minority groups is at a minimum. We should think that in a crisis such as we are

faced with at present, there is no place for segregatory or discriminatory practices. Hence we appeal to you to include a provision prohibiting further limiting these minority groups in opportunities for training to better serve our country.

Very truly yours,

EMERY L. RANN, M.D.
Chairman, The Imhotep Conference.

SANTA MONICA, CALIF., *January 16, 1962.*

Chairman HARRIS,
House Interstate and Foreign Commerce.

DEAR CHAIRMAN HARRIS: I notice that hearings will begin on January 23 regarding increased opportunities for training health personnel. May I suggest that your committee need look no further than to encourage passage of the Keogh bill. This would eradicate a grave injustice in our country's taxation setup for the professional man and increase our incentive.

As the tax laws now discriminate against the self-employed, I can assure your committee that my two sons will be discouraged from the health professions.

Sincerely,

RICHARD L. COMEN, D.D.S.

YALE UNIVERSITY SCHOOL OF MEDICINE,
DEPARTMENT OF EPIDEMIOLOGY AND PUBLIC HEALTH,
New Haven, Conn., January 19, 1962.

Hon. OREN HARRIS,
House of Representatives, Washington, D.C.

DEAR REPRESENTATIVE HARRIS: I wish to express the full support of the Yale University School of Public Health for the teaching facilities construction bill H.R. 4999. The proposals contained in this bill will go far to meeting a long-felt need for improved facilities and support for education in the health professions. As is well known the medical profession in general and the public health profession in particular are facing lean years in the coming decades arising in part from competition with the new developments in the physical sciences in attracting students of the quality needed to face the increasing complexity of the health problems of the future.

At Yale the present facilities for teaching Epidemiology and Public Health, and for undertaking research in these fields, are woefully inadequate. There have in fact been no significant changes in them for over 20 years. The time has come when some degree of expansion of these facilities is absolutely essential if the school is to fulfill its present obligations, and the construction of completely new and enlarged facilities are necessary if the school is to play its potential role in meeting the problems of the future. These facilities are needed both for teaching and research, a division which is of course largely artificial as far as graduate training is concerned since the best advanced training is conducted in a framework of ongoing research. Matching Federal support can, it is true, be obtained for construction of research facilities, though schools of public health generally have considerable difficulty in attracting the basic funds needed from other sources because public health research does not have the glamour attached to medical research. But even more serious than this is the fact that research cannot be carried through successfully without an adequate number of highly trained scientists of real ability.

It is my opinion that we are rapidly approaching the point at which the fine and hitherto most rewarding policy of the support of research on a large scale may founder owing to the lack of such trained men. If the research workers of the future are to be there when they are needed they must be trained now and if we are to attract men of the quality we need, we must be able to offer them training facilities and ancillary support commensurate with their professional and personal needs. If the House of Representatives intends to continue its support of research in the health fields, it would seem both logical and essential that it should support the training which is absolutely necessary for the development of the coming generation of research workers. This is of course in addition to the many other cogent reasons for the support of training to meet the pressing needs of the communities of the State of Connecticut in the immediate future.

Being aware of your fine efforts in the past as chairman of the House Interstate and Foreign Commerce Committee in the support of legislation to improve the health of this country, I believe there is no need to urge you to support this bill. May I therefore simply assure you of the full support of this school of public health and that if there is any way in which we can help please do not hesitate to call on us.

I respectfully request that this letter be included in the record of the hearings.

Sincerely yours,

A. M.-M. PAYNE, M.D., M.R.C.P., *Chairman.*

STATE BOARD OF HEALTH,
Helena, Mont., January 22, 1962.

Re H.R. 4999.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

MY DEAR MR. HARRIS: In view of the fact that, at present, Montana must depend entirely on other States for education of persons in the medical, dental, public health, and other related fields, it is my hope that the House Interstate and Foreign Commerce Committee will endorse H.R. 4999 and will report it favorably to the House.

This bill would certainly be important to our State, as well as the Nation, when we recognize the unmet needs in the health fields, both in training facilities and personnel.

Will you please include this letter in the record of the hearing.

Respectfully submitted.

MARY E. SOULES, M.D.,
Deptly Health Officer and Director,
Division of Disease Control.

ASHEVILLE, N.C., *January 24, 1962.*

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives,
House Office Building, Washington, D.C.

DEAR CONGRESSMAN HARRIS: I am very interested in H.R. 4999, known informally as the medical schools construction bill. Speaking from personal experience as a health director for the past 22 years, I regret to report that there is a great shortage of trained medical personnel in the preventive field. The outlook is not optimistic unless our medical schools, and particularly our higher professional training schools, are given some type of financial aid. The days of foundations and large philanthropic gifts are gone.

In my State of North Carolina and also your State of Arkansas and many other States in the West, there is indeed a great demand for trained public health personnel in the field of preventive medicine. As we make greater progress in our medical sciences, preventive medicine will play an increasingly more important roll. I feel sure that my colleague, Dr. Mason Lawson, health director of Little Rock, will substantiate these statements. I am taking the liberty of sending a copy of this letter to my friend, Congressman Roy A. Taylor, in hopes that you and Roy will spread the news that H.R. 4999 is quite necessary to the field of medical progress and the protection of our citizens throughout the entire United States.

Respectively yours,

H. W. STEVENS, M.D.
President Elect, Southern Branch,
American Public Health Assocation.

Cc.—Congressman Roy A. Taylor.

THE KANSAS STATE BOARD OF HEALTH,
Topeka, Kans., January 22, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
The House of Representatives, Washington, D.C.

DEAR CHAIRMAN HARRIS: I would like to take this opportunity to express my personal endorsement of H.R. 4999, with the hope that your committee will report it favorably to the House.

Perhaps the major contributing factor to the present state of public dissatisfaction with health care in this country lies not so much in the area of economics, but in the fact that professional personnel shortages confront the individual citizen whenever his need for their services arises. The recent West Virginia experience in administering Kerr-Mills provisions, reflects in part, the public's conditioned reaction to professional starvation. The professional pressures produced, allowed a certain amount of individual rationalization for committing ethical transgressions. A sufficient number of trained professional and nonprofessional health personnel who could understand, define and meet the real local public health needs would have prevented most of these transgressions.

Also, contemplation of our present health personnel shortages becomes staggering when projected into even the immediate future. Faced with this, we must institute some means of meeting the need, and it seems to me that H.R. 4999 is the answer.

If time permits, please include this letter in the record of the hearing.

Respectfully yours,

ROBERT H. RIEDEL, M.D.
Executive Secretary.

STATE OF IDAHO,
DEPARTMENT OF HEALTH,
January 23, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR REPRESENTATIVE HARRIS: Because we know from long continued experience the difficulty in recruiting professional workers to the field of public health, we wish to endorse specifically that part of H.R. 4999 providing grants to public health teaching facilities. We hope that your committee will report this bill with favor to the House of Representatives.

Expensive travel will obviously make it impossible for us to attend any of the hearings. We should like, therefor, to ask that this letter be made a part of the hearing, if this is possible.

Sincerely,

TERRELL O. CARVER, M.D.
Administrator of Health.

UNIVERSITY OF CALIFORNIA SCHOOL OF PUBLIC HEALTH,
OFFICE OF THE DEAN,
Los Angeles, Calif., January 19, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR CONGRESSMAN HARRIS: The health and medical professions appreciate your support of Federal legislation which enhances the training of professional personnel to meet the needs for prevention and treatment of disease and for rehabilitation of the disabled. National and world social trends forces us regionally to seek support from national and international resources in the training of potential leaders in the health and medical sciences. While we are making progress in expanding international, National, State, and local support for research and education, this must be equalized with the facilities available for these endeavors. H.R. 4999 is a most realistic way of assisting the health and medical sciences to meet the challenge of increasing the number of graduates, improving the quality of training and education, and of meeting the service requirements of our country. Also Federal support for the construction of additional facilities is the only way we can ever hope to meet the international competition of the training of foreign professionals and Americans for foreign

health assignments. While local and State citizens are willing to support the expensive graduate training in these health fields to meet their own demands, in our own State with our explosive population, we cannot meet our local demands.

We have come to the crossroads of decision in the health and medical sciences just as we have in other areas of national interest wherein we wish to maintain or acquire international leadership. In examining the record you will find that public health assistance, which we have provided foreign countries through education and training, has been most popular and a realistic approach to improving mutual international relations.

Schools of medicine and dentistry primarily train American citizens and State-supported schools primarily State citizens for service to individuals within our geopolitical boundaries. A majority of graduates engage in such rewarding activities which enables them to channel more material support to their parent school than the public health school graduates who engage in community service, governmental and international service. The preparation of physicians and dentists for community and international health service begins with the training of a sufficient number to meet our own local needs and a small percentage each year for public health graduate training. However, schools of public health draw from all disciplines and professions for the preparation of teams of physicians (health administrators and epidemiologists), dentists, veterinarians, engineers, nurses, social scientists, educators, sanitarians, nutritionists, microbiologists, etc.

There are only two schools of public health west of the Mississippi, both State schools attempting to meet the personnel needs of States with the greatest population increase within our own State as well as adjacent States. There is a serious lag between the tax contribution of this increased population and the preparation of health professionals to meet service needs.

Now is the time, therefore, for Federal support for the construction of facilities which will facilitate the graduate professional training of personnel to expand community services for the prevention of disease and disability and to take leadership in community organization for medical care and rehabilitation.

We are pleased to have Drs. Stebbins (Johns Hopkins), Leavell (Harvard), and Wegman (Michigan), represent the schools of public health in testimony before your committee. I personally am happy that Dr. Stafford L. Warren, our UCLA vice chancellor of health and medical science, can represent our schools of medicine, dentistry, and public health.

We know that Representatives J. Arthus Younger and John E. Moss appreciate our problem for meeting the health needs of California and the West and the stress placed on our California schools in the education of professional personnel for foreign service.

Sincerely,

L. S. GOERKE, M.D.,
Dean, President, Los Angeles City Board of Health, Vice President, California State Board of Health.

STATE OF MARYLAND,
DEPARTMENT OF PLANNING AND PLANNING COMMISSION,
Baltimore, Md., January 26, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, Washington, D.C.

DEAR CONGRESSMAN HARRIS: I want to thank you again for the opportunity to appear before the Committee on Interstate and Foreign Commerce in support of H.R. 4999.

As you may recall, when I appeared before the committee, I made reference to a problem with regard to foreign medical graduates, a reference which did not appear in my prepared statement.

Our committee, in studying the problem of physician supply, concluded that it was quite likely that the influx of foreign medical graduates would begin to taper off in the next few years. (Reference to this will be found in the mimeographed copy of our report, ch. II, pp. 22–27, which is on file with your committee.) Since 1 out of 5.7 medical graduates licensed for the first time in the United States each year is currently a foreign medical graduate, and since these graduates are currently essential to maintain our physician-popula-

tion ratio, you can appreciate what a severe impact a decrease in foreign immigration can have.

To my knowledge all other reports calling for expansions to meet 1975 goals did not consider a possible decline in the number of foreign medical graduates being licensed. If we are correct in our analysis, the speed with which we need to expand our facilities, and induce more students to undertake the study of medicine, must be greatly accelerated. H.R. 4999 will do much in this regard, and its early passage is critically necessary.

Sincerely yours,

Rabbi MORRIS LIEBERMAN,
Chairman, Subcommittee on Medical Education and Research.

STATE OF CALIFORNIA DEPARTMENT OF PUBLIC HEALTH,
OFFICE OF THE DIRECTOR,
Berkeley, Calif., January 24, 1962.

Hon. OREN HARRIS,
House of Representatives,
House Office Building,
Washington, D.C.

DEAR MR. HARRIS: On behalf of the Association of State and Territorial Health Officers, I want to express a strong endorsement of your bill, H.R. 4999, the Health Professions Education Assistance Act of 1961. As public health officials we are most cognizant of the need for expanding facilities for training of the health professions. With the rapid population increase, the relatively slower increase in the training of individuals for the health professions is resulting in a decrease in the physician, dentist, and public health specialist population ratio. This deficit is magnified by the increasing demands placed upon the professions of our country for assistance in the international health programs.

It seems to us as State directors of public health that this is an appropriate area for the Federal Government to render assistance and that the provisions of H.R. 4999 in general will be expected to accomplish the desired objectives.

While we do not desire to take the time of the committee for specific presentation, we would appreciate having this letter included as part of the record of the hearings.

Very sincerely yours,

MALCOLM H. MERRILL, M.D.,
President, Association of State & Territorial Health Officers.

AMERICAN COLLEGE OF SURGEONS,
Chicago, Ill., January 25, 1962.

Mr. WILLIAM E. WILLIAMSON,
Clerk, Committee on Interstate and Foreign Commerce,
U.S. House of Representatives,
Washington, D.C.

DEAR MR. WILLIAMSON: It will not be possible for me to accept the invitation to be present at the meeting of the Subcommittee on Health and Safety on February 6, 1962, as a representative of the American College of Surgeons, when H.R. 133 is to be considered at a public hearing.

The American College of Surgeons and its committee on trauma have an interest in the end products of this bill should it be enacted into law. This interest has been heightened by reason of projects and programs formulated within the joint action program (established 1958) of this college with the National Safety Council and the American Association for the Surgery of Trauma.

We have conferred with officials of the National Safety Council and carefully reviewed the objectives implementing language and effects of the proposed legislation, and are in entire agreement with the position which the National Safety Council will take. I have informed Mr. William Johnson, general manager of the National Safety Council, that our views on this bill coincide with the views of his organization and that he may so advise the subcommittee.

Sincerely yours,

JAMES B. MASON, M.D., FACS,
Assistant Director.

STATE OF GEORGIA,
DEPARTMENT OF PUBLIC HEALTH,
Atlanta, Ga., January 31, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR CONGRESSMAN HARRIS: We in public health in Georgia are very much interested in the provisions of H.R. 4999 which, I understand, is now before your committee.

This bill provides for grants for construction of health teaching facilities including teaching hospitals for such professions as medicine, dentistry, and public health and further provides for grants for scholarships and supporting costs.

The shortage of such trained personnel is nationwide and certainly Georgia is no better than the average and in some respects well below the average. It is our considered opinion that this bill, adequately supported by appropriation, will do much to alleviate the problem.

I would appreciate it very much if your committee could see fit to report this bill favorably to the House and will hope this letter may be included in the report of the hearing.

Sincerely,

JOHN H. VENABLE, M.D., *Director.*

HARVARD SCHOOL OF PUBLIC HEALTH,
Boston, Mass., January 31, 1962.

Re H.R. 4999.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
U.S. House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: As a physician engaged in graduate public health education and research, I wish to be recorded as strongly endorsing H.R. 4999 which your committee is now considering. The bill is soundly conceived. I thank you for introducing it and for giving all who are interested an opportunity to offer comment.

Speaking for a school of public health which has been forced to limit its student enrollment because of lack of adequate teaching space, I earnestly request that H.R. 4999 be amended to provide special treatment of the schools of public health in the form of a separate authorization for teaching facilities grants and an 85 percent Federal share of construction costs. This request is based on the fact that this school and the others have found that they cannot match Federal funds for teaching facilities because of (1) unavailability of endowment funds for construction; (2) disinclination of private foundations, industries and individuals to provide facilities for the training of students for public service; (3) reluctance of State legislatures to provide facilities for training out-of-State students.

The 12 schools of public health in the United States serve the other States and the Federal Government by preparing physicians, dentists, engineers, nurses, and others for leadership in public health agencies and institutions. The severe shortage of graduate-trained personnel cannot be met without Federal assistance in the expansion of teaching facilities. This school would like to build new teaching facilities that would permit a 35 percent increase in student enrollment, but we know from experience that we would be unable to obtain more than 15 percent of construction costs from non-Federal sources.

With best wishes,

Sincerely yours,

JOHN C. SNYDER, M.D., *Dean.*

NORTHWESTERN UNIVERSITY,
DENTAL SCHOOL,
Chicago, Ill., January 31, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. HARRIS: I would like to acquaint you and the members of the Committee on Interstate and Foreign Commerce of my interest in H.R. 4999.

Dental schools are particularly needful of construction funds. I am hoping that some type of legislation in this important area may be produced at this session of Congress. Your interest will be appreciated.

Very truly yours,

GEORGE W. TEUSCHER, *Dean.*

STATEMENT IN SUPPORT OF HEALTH PROFESSIONS EDUCATIONAL ASSISTANCE ACT BY THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Mr. Chairman and members of the committee. I am Dr. G. O. Broun, dean of St. Louis University School of Medicine. I am appearing as a representative of the Association of American Medical Colleges.

I am grateful for the opportunity of appearing before this committee. I wish to endorse the provisions of H.R. 4999, and to urge that it receive favorable consideration from the committee and be promptly enacted into law.

I am in full agreement with the very fine statements of Dr. Anderson, Dr. Berson, and Dr. Turner.

An acute shortage of physicians is already evident in certain areas and will become increasingly severe within a few years. New medical schools will be needed and existing schools must be improved and expanded.

In our school of medicine, it has been difficult to secure adequate funds for construction of teaching facilities both for the basic medical sciences and for building programs of our teaching hospitals and clinic. Hence, the need of those provisions of H.R. 4999 which refer to construction of medical educational facilities. There is urgent need of increasing the number of qualified student applicants through provision of scholarships for students who otherwise could not afford the high costs of medical education.

We have noted a decrease in the number of properly qualified applicants seeking admission to our school of medicine. I strongly urge that favorable consideration be given to bill H.R. 4999.

ELI LILLY & CO.,
Indianapolis, February 6, 1962.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR MR. HARRIS: I am Thomas P. Carney, Ph. D., vice president of research, development, and control for Eli Lilly & Co. I would appreciate it if this statement could be made part of the record of your hearings on H.R. 4999, the Health Professions Educational Assistance Act of 1961.

My deep interest in H.R. 4999 stems from my close association with the creation of prescription medicines and from my past service as a special consultant to the Secretary of Health, Education, and Welfare on problems of medical research and medical education. In the latter capacity I was 1 of 10 physicians and scientists under the chairmanship of Stanhope Bayne-Jones, M.D., whose final report was issued June 27, 1958, under the title "The Advancement of Medical Research and Education Through the Department of Health, Education, and Welfare." My work has brought me into close association with the practice of medicine and into many direct relationships with medical schools.

It should be unnecessary to review the importance of medical schools to the health of the American people. There is disturbing evidence, however, that the crucial role of medical education has not been so widely appreciated as it should be. Public attention and political support in recent years have centered on other medical and scientific fields.

Somehow our society has failed to recognize the clear truth that medical schools are the key to all health progress. They provide (1) the scientific researchers who open new frontiers of knowledge, (2) the physicians who apply this knowledge for the benefit of the people, and (3) the teachers who train both research scientists and medical practitioners of the future. Medicine cannot advance without an adequate supply of all three—medical schools are the funnel from which all three must come.

My conviction as to the paramount importance of medical education is derived not only from general observation but from personal experience. Eli Lilly & Co. now invests more than $20 million annually in the search for new

and better medicines. We rely on physicians and other medically trained personnel to study basic disease conditions, to identify opportunities for therapeutic advances, to help explore the possible advantages and disadvantages of new drugs in the treatment of diseases, to develop effective dosage forms and modes of administration, and, finally, to determine in clinical practice the physiological effects and limitations of our products. We rely on physicians and other medically trained personnel to assure that our information to the medical profession about the proper use of our medicines is accurate and useful.

In recent years remarkable scientific developments have produced incredible health progress and medical advances. Here are some startling facts:

More than 4.4 million Americans living today would be dead if the Nation's mortality rate had remained at the 1937 level.

Since 1944 the death rate from influenza has dropped 90 percent; the rate from tuberculosis, 83 percent; acute rheumatic fever, 83 percent; syphilis, 79 percent. Since 1940 the death rate among mothers in childbirth has declined by over 90 percent.

During the 5 years ending in 1960, the number of patients released from mental hospitals has increased over 51 percent. Over 200,000 more persons were released than would have been at the 1955 rate.

Equally startling is the realization that, although mankind has been battling disease and disability for thousands of years, all of this progress has occurred within the last quarter of a century.

Economic benefits cannot be compared with considerations of life and death, but they are important:

The National Health Education Committee has estimated that the decline in mortality rates since 1937 adds almost $9 billion to the national income every year.

Millions of people have been freed from handicaps of disease to perform productive and useful work: People buy antibiotics and are freed from long hospitalization with pneumonia; they buy polio vaccine and escape iron lungs and braces.

The decline in the number of mental hospital patients below the number predicted 5 years ago for 1960 has saved approximately $1.8 billion in institutional construction costs.

The availability and skill of our Nation's physicians are essential to continuing the kinds of progress which I have enumerated. Looking to the future, it is unmistakably clear that this country must undertake a major and rapid expansion of medical teaching facilities if we are to maintain our standards of medical care.

First, we know that there will be a tremendous increase in the demand and need for medical care. The burgeoning of our population, if nothing else, would assure this. The need for medical care also will be heightened because the population is increasing fastest in the younger and older age groups, which require more medical attention than other groups, and because the expansion of medical knowledge and rising levels of income tend to increase demands and opportunities for medical care.

Second, the presently planned facilities of our medical schools will fall far short of providing the physicians and other personnel required. There is striking agreement on this point among all students of the problem. The Bayne-Jones report of 1958 unanimously concluded that the annual output of our medical schools would have to increase from 6,800 physicians in 1956 to 8,700 by 1970 if we are to maintain the present ratio of physicians to population. The report estimated that 700 of the needed additional physicians could be provided by improving and expanding existing schools, but 1,200 additional physicians would have to be provided through the construction of new schools.

In 1959 a more detailed study by another group of expert consultants to the Surgeon General of the Public Health Service, under the chairmanship of Mr. Frank Bane, arrived at similar conclusions. This report, also unanimous, showed that even if medical education facilities continue to expand at the recent increasing rate there would be a serious shortage of physicians in the 1970's. The consultants found that admissions to medical schools must be increased by 50 percent by 1971 if we are to maintain the present ratio of physicians to population—certainly a necessary and reasonable minimum objective. To provide the required facilities would necessitate construction of the equivalent of 20 to 24 new medical schools.

Statements by the American Medical Association, the Association of American Medical Colleges, the Public Health Service, and others all tend to support the fact that we must expand medical teaching facilities well beyond the present plans and capacity of our medical schools if we are to avoid a serious shortage of physicians in this country.

Third, I would like to emphasize the need for early action to meet this problem. It is extremely important to recognize that many years are required to plan, build, equip, and staff an adequate modern medical school. In most cases a start on this process today would not produce graduates until 1970 or after. In view of the long leadtime required, therefore, the question is not whether action is needed now but whether we are already too late.

With the need for expansion in medical education so thoroughly established, we come to what is perhaps the central issue in the minds of Congress: Is Federal aid justified and required?

Let me make it clear that my own philosophy is that I would much prefer to see the needs met by State and local and private action if this could be realistically expected. However, in view of the magnitude of the need and the urgency of early action to meet it, present sources of support for medical schools will not be adequate to inaugurate soon enough the large expansion program which is so vitally necessary. This means, I am convinced, that a temporary program of Federal stimulus and support for construction of medical schools is essential.

In saying this, I realize that there are always dangers of possible Federal intervention when Federal funds are used. I sincerely hope that, if this bill is enacted into law, it will always be administered in such a manner as to obviate any possibility of such interference with any educational institution.

I do not believe that this country can afford to let acute shortages develop in medical education and, thus, in our supply of physicians and medical researchers. This is why, in the interest of continued health progress, I hope your committee and Congress will authorize Federal grants to assist medical schools in meeting their urgent construction needs. The program is indeed important to the future health of the American people.

Sincerely,

THOMAS P. CARNEY.

WEST VIRGINIA UNIVERSITY,
THE SCHOOL OF DENTISTRY,
Morgantown, February 3, 1962.

Representative OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
U.S. House of Representatives, Washington, D.C.

DEAR MR. HARRIS: The purpose of this communication is to urge your support to the pending bill, H.R. 4999, which would provide Federal funds for supporting dental education. The provision of adequate manpower to supply the oral health needs of a rapidly increasing population is a major concern of the dental profession. New schools must be constructed and old schools expanded to provide the necessary educational facilities. More of the highly competent students must be recruited for the health professions. An increased financial support is necessary to accomplish these needs.

Your favorable consideration of this request will be appreciated.

Sincerely yours,

KENNETH V. RANDOLPH, *Dean.*

TUFTS UNIVERSITY,
SCHOOL OF DENTAL MEDICINE,
Boston, Mass., February 5, 1962.

Hon. OREN HARRIS,
House Office Building,
Washington, D.C.

DEAR REPRESENTATIVE HARRIS: Last summer and again at this time I sent the attached letter and supporting material to the Representatives of the New England States, urging them to support H.R. 4999.

This measure is absolutely essential if private dental education is to survive in this country. The extremely high costs of professional education make it necessary for private enterprise and Government to combine forces in order to achieve the facilities required for a truly modern dental school. In addition, we

must be able to compete on an equal basis with other scientific areas for outstanding college graduates. Part of this competition lies in the scholarship area, and it is a matter of record that dental schools have for all practical purposes negligible scholarship resources.

In many respects the problem of producing dental manpower for the sake of the oral health of the people is similar to the production of missiles for the defense of the people. In the latter case, the Government and private enterprise become a team. The Government programs in support of Ph.D. training produce the experts who join various companies which in turn through various arrangements with the Government produce missiles. The Government obtains its objectives while at the same time preserving our cherished traditions of private enterprise. In the same way H.R. 4999 will permit private dental education to join forces with the Government to meet the need for dental manpower while at the same time preserving the tradition and freedom of private educational institutions.

I urge you to bend every effort to achieve the passing of H.R. 4999 and would be pleased to have you include this letter or the one attached in the hearing record.

Respectfully yours,

JOHN W. HEIN, D.M.D., Ph.D., *Dean.*

JUNE 30, 1961.

Hon. JOHN W. MCCORMACK,
House Office Building,
Washington, D.C.

DEAR CONGRESSMAN MCCORMACK: Proposals for aid to dental schools are coming before the Congress in the near future. Since the School of Dental Medicine of Tufts University is the major single source of dentists for New England, I though you would be interested to learn more specifically of the effect of these proposals on the problems of dental education at our dental school.

Our school is one of the oldest and largest in the country. The student body numbers 394 undergraduates plus 43 graduate students. In addition, during the past year we gave short refresher courses to 183 graduate dentists. The important role that Tufts plays in the New England region is best illustrated by the percentage of students at our school from the various States:

	Total in dental schools	Number at Tufts	Tufts percent of total
Connecticut	169	46	27
Maine	26	14	53
Massachusetts	429	199	47
New Hampshire	38	20	53
Rhode Island	44	17	38
Vermont	23	14	61
Total	729	310	42

In spite of the vital importance of our school in the dental manpower picture we are experiencing a very difficult time meeting this obligation. During the last few years the deficit of the school of dental medicine has exceeded or closely approached $100,000 a year and it has been necessary for Tufts University to use a major part of its income from general university endowment to meet our expenses. The seriousness of this situation is highlighted by the observation that our own dental school endowment totals less than $18,000.

Our equipment and physical plant must be completely replaced in the near future if we are to continue to give our students the best possible training. We have been making plans in this direction as shown by the attached proposal for a Tufts University Rental Center. Without Government support, however, this project will be impossible. The measures currently pending before the Congress will bring our plans much closer to realization and thus we ultimately would be able to increase our enrollment by 20 percent. In addition, the instructional costs appropriation would enable us to relieve the serious burden which the dental school currently places on the university.

The School of Dental Medicine of Tufts University is very proud of the example it has set of the manner in which a private educational institution can

successfully meet the health needs of a whole region of the country. We feel that our dental center plan would be an excellent illustration of the way private enterprise and Government can combine forces to meet the future dental needs of the people of New England. We are happy to find that the young men, who are our students, support this concept as illustrated by the unsolicited pledge of $100,000 toward the dental center project by the 100 members of the senior class who have just been graduated. (See attached copies of press clippings.)

The average New England student attending our school comes from an economic background which is considerably lower than that of dental students in other areas of the country. This is clearly indicated in the following table:

[In percent]

	National	Tufts
Will not have to work	45	18
Will have to work summers	66	90
Work part time during year	8	36
No family aid	6	18

Obviously the scholarship provisions of the pending legislation will be of immense help to New England dental students. These Federal scholarships will also enable many qualified students to think of attending dental school, where this is probably now impossible, as shown by the following data:

[In percent]

	National	Tufts
Parents of students, yearly income:		
Under $4,000	7	15
$4,000 to $6,000	18	29
$6,000 to $8,000	20	16
$8,000 to $10,000	16	11
$10,000 to $12,000	13	8
Over $12,000	26	20

Any support you can give the Federal programs for dental education as covered by H.R. 4999 will certainly benefit the people of your State. If you desire any additional information, I shall be most happy to furnish it to you.

Sincerely,

JOHN W. HEIN, D.M.D., Ph. D., *Dean.*

BAYLOR UNIVERSITY,
COLLEGE OF MEDICINE,
TEXAS MEDICAL CENTER,
Houston, Tex., February 5, 1962.

Hon. OREN HARRIS,
U.S. House of Representatives,
Washington, D.C.

MY DEAR MR. HARRIS: I should like to thank you again for the opportunity and privilege of appearing before your committee on behalf of H.R. 4999.

I have since prepared an additional statement which may be of interest to you.

Sincerely,

MICHAEL E. DEBAKEY, M.D.

MEETING THE NEED FOR MORE PHYSICIANS IS A NATIONAL RESPONSIBILITY

Congressional hearings have just been held on a bill, H.R. 4999, entitled, "Health Professions Educational Assistance Act of 1961." This is the most important piece of medical legislation to be considered by Congress since the acts which established the National Institutes of Health. Indeed, in certain respects, this bill could have more far-reaching significance both for medicine and for the Nation than the latter, since it is designed to meet a more urgent fundamental need.

The purpose of H.R. 4999 is to stimulate the establishment of new schools of medicine, to encourage the expansion of enrollments in existing medical schools, and to enable larger numbers of capable young men and women to study medicine irrespective of their financial status. To achieve these purposes the bill makes two important provisions; namely, grants on a matching basis for construction of educational facilities and scholarship grants equal to $1,500 multiplied by one-fourth the number of students in each class. Each scholarship provides, in addition, $1,000 to the medical school to help defray the cost of the student's education.

The critical need for more physicians is now unquestioned. Over the past decade there have been no fewer than five thoroughly documented studies, prepared by recognized experts, which show clearly that our Nation faces a serious shortage of physicians and dentists unless we taken energetic corrective measures immediately.

It has been demonstrated, for example, that by 1970 we shall have to graduate 3,500 more physicians than were graduated in 1960 in order just to maintain our present ratio of physicians to population (1 to 720). And were it not for the immigration to our country of a large number of foreign-trained physicians, representing in 1958 17 percent of the new physicians entering practice, that ratio would already have dropped significantly. This fact in itself not only highlights this problem, but provides a wry commentary upon our judgment in meeting the health needs of our people. One might well ask why a country such as ours, with all its wealth and industrial might, should choose to provide billions of dollars for foreign aid programs of various kinds and yet be dependent upon other nations with far less economic resources for the education of those additional physicians we urgently require to meet the minimum needs of our own people.

The genuine need for this legislation has been documented further by certain facts related to the recruitment of medical students. Over the past decade there has been a serious decrease both in the number and quality of college graduates applying for admission to medical schools, despite the fact that the total number of college graduates has increased. In 1948, for example, the number of medical school applicants represented 6.6 percent of the college graduates. In 1959, this figure had dropped to 3.9 percent. The overall failure rate in medical schools has been increasing in recent years as certain schools have had to fill their classes with candidates who are not well qualified.

There are undoubtedly many diverse factors responsible for these sobering statistics regarding the recruitment of medical students, but unquestionably the most important among these is the great cost of a medical education. The average cost to each student of 4 years of medical education, based upon data from the 1959 medical school graduating class, was more than $11,600. It is, therefore, not surprising to find that more than half the 1959 medical graduates had to borrow substantial sums to complete their education and that one-third of the total group had an average debt of $4,258. Upon completion of his basic medical education the young physician must take at least 1 year of internship, and, if he desires a career in a specialized field of medicine, 3 to 5 additional years of residency training during which time his earnings will not provide even a bare subsistence. It should come as no surprise, therefore, to learn that our physicians are coming mainly from the families with substantial economic resources. In 1959 45 percent of families in the United States had an annual income under $5,000, but they contributed only 14 percent of the 1959 medical school graduating class. However, 43 percent of this same class came from the 12 percent of U.S. families with an annual income of $10,000 or more.

In addition to these important financial considerations which have deterred many outstanding college graduates from entering upon the study of medicine, the situation has been further worsened by the development in recent years of many intellectually stimulating career opportunities in science for which fully generous scholarship provisions are available. The Federal Government now provides fellowships for every field of higher education in the sciences except medicine. Through its various agencies—the Department of State, the National Science Foundation, the Office of Education, and the National Institutes of Health—approximately 10,000 predoctoral fellowships are provided each year. These fellowships afford the student not only free choice of the institution in which to pursue his study, but also provide full tuition, a stipend plus a dependency allowance, a travel allowance, and in some instances, an additional

subsidy to the institution. It should be obvious that the college student with limited economic resources who is interested in science may not only select a career which will offer prestige and financial security, but may do so under circumstances which will provide adequate support for his entire education as well. It would indeed be small wonder if a student desiring such a career in the sciences were to choose medicine in contrast to a science in which such fellowships are available.

We have with good reason taken pride in the high standards of medical care which we have been able to provide, and we have developed over the past decade, especially with the aid of the National Institutes of Health and the funds that Congress has generously appropriated for this purpose, the finest overall general medical research program in the world, one that is attracting increasing numbers of foreign individuals here for research training. The quality and high standards of these activities are largely dependent upon the maintenance of high quality personnel and the attraction of the best qualified college students into medicine. It should be obvious that if these college students are deterred from entering medicine, it will be only a matter of time before the standard and quality of both medical care and medical research, as well as medical education, will gradually deterioriate.

All of the many persons who testified before the committee in the hearings on H.R. 4999 were enthusiastically and overwhelmingly in support of the full provisions of the bill except for the spokesmen of the American Medical Association. They, to be sure, supported that portion providing construction grants for educational facilities, but refused to take a positive position on the matter of scholarships, and instead, spoke about the interest of the American Medical Association in developing a program of loan assistance.

It should be obvious even to the American Medical Association that augmentation of loan funds will not meet the need of many well qualified students. Many schools and State medical societies already have substantial loan funds, but the experience of past years has demonstrated their inadequacy to increase the attractiveness of a medical career because of the high cost to the student. Substantial increases in private scholarship and loan resources have been provided in the past decade, but it is apparent that these efforts to make adequate support available through private means have not met the problem, and it is for this reason that the importance of the scholarship provisions in the bill becomes even more significant.

There has been concern in some quarters that Federal aid to medical education may bring about undesirable governmental controls. The experience of medical schools with respect to Federal participation in support of medical research over the past decade gives no substance to these fears. Not only has there been no interference with research, but it is now generally agreed that this type of aid has been of tremendous benefit to the schools. There is therefore good evidence and experience to demonstrate that support from the Federal Government can be administered without interference in academic affairs and without the introduction of restrictive controls. Furthermore, there is no provision in this bill which would in any way create such undesirable factors.

Has not our sense of values become distorted when we as a Nation can provide billions of dollars for foreign aid programs of all kinds and for projects concerned with reaching the moon and yet be reluctant to provide even a small fraction of this sum for critically urgent measures to maintain the health of our people? The security and integrity of our Nation are more dependent upon their health than on any other single factor. We have long had a real concern for the welfare of the individual citizen and have derived deep satisfaction from meeting his need in a humanitarian way. Why should we then knowingly deny ourselves these measures to strengthen our capabilities and to meet our traditional obligations, and why should we afford our youth opportunity to achieve and maintain his proper role in our society in every field but medicine?

This matter is of deepest concern to our people. While passage of this bill will not entirely resolve the problem, it will be a great step toward its ultimate solution.

MICHAEL E. DE BAKEY, M.D.

UNIVERSITY OF LOUISVILLE,
SCHOOL OF DENTISTRY,
Louisville, Ky., February 1, 1962.

Hon. OREN HARRIS,
U.S. House of Representatives,
Washington, D.C.

DEAR MR. HARRIS: The bill H.R. 4999 now pending in Congress to provide Federal funds (1) for construction of teaching facilities at dental schools, (2) for scholarships to dental students and (3) for cost of educational payments to dental schools is of vital interest to the University of Louisville School of Dentistry as well as to other dental educational institutions and to the citizens of the country at large.

The expanding population and increasing demand for dental services clearly indicate the need for additional dental manpower. Dentistry is an indispensable health service and it is to the public interest that the mechanisms which produce those who make these services possible are properly maintained.

The final report of the Commission on the Survey of Dentistry in the United States recommends that:

"The Federal Government assist dental education by providing funds for operational expenses, as well as for new construction and remodeling and for scholarship and loan funds for dental students; present schools be expanded and new schools constructed to permit the graduation of at least 6,180 dentists annually by 1975" and "additional facilities should be provided by the training of auxiliary personnel both in dental schools and other institutions."

All dental schools are in a very definite sense public institutions in that they contribute to the promotion and safeguarding of the health of the Nation. Society owes professional education material support and the Federal Government should in my opinion, be willing to shoulder some of the burden of educating dentists and auxiliary personnel.

The building presently occupied by the University of Louisville School of Dentistry was built in 1900. Although extensive renovations have continually been made over the years, the building is outmoded and illy adapted to the conduct of the progressive educational program we are attempting to carry out. The ground where the building is situated is too restricted in area to accommodate the type of enlarged physical plant that is required. The present location is a noisy and congested intersection, and these unfavorable conditions have now become more intolerable by the construction of an elevated expressway within 30 feet of the building. A new $2,600,000 medical-dental reesarch building which is being made possible by matching funds from the Federal Government, will soon be built in the medical center a few blocks away. A new dental school building in the center is necessary if we are to continue to provide dental health services, through the education of dentists and auxiliary personnel.

It is equally important that scholarships grants to dental students, and financial assistance to the schools to meet part of the instructional costs of these students, now borne by the universities, be made available.

I hope you will see fit to support legislation to provide Federal aid for dental education and for dental research.

May I request that you, as chairman of the committee, include my letter within the hearing record on H.R. 4999.

Yours sincerely,

RAYMOND E. MYERS, *Dean.*

PHARMACEUTICAL MANUFACTURERS ASSOCIATION,
Washington, D.C., February 2, 1962.

Re H.R. 4999.

Hon. OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This letter is submitted on behalf of the Pharmaceutical Manufacturers Association on H.R. 4999, a bill amending title VII of the Public Health Service Act and entitled the "Health Professions Educational Assistance Act of 1961."

This association is a nonprofit membership association, incorporated under the laws of Delaware, with its principal office in the city of Washington, D.C.

At the present time, there are included in its membership about 140 member companies which are engaged essentially in the manufacture of prescription drug products, and these companies produce in excess of 95 percent of the Nation's total production of such products.

The Pharmaceutical Manufacturers Association would like to support the provisions of the bill providing Federal matching grants for the construction of medical schools. We recognize that the quality of medical education bears directly on the total quality of medical care which is provided to the public. We, therefore, believe that the high quality of medical education in this country, which is exceeded by no other, should be maintained at the highest possible level. This Nation indeed owes a great debt of gratitude to our medical leaders and educators who through their drive, direction, and wisdom brought American medical education to its present foremost position.

Unquestionably, the adequacy of physical facilities has an important relationship to the quality of medical education. In recent decades, the advances and breakthroughs in medical science have been startling and dramatic. With them have come great changes in all aspects of medical education and medical care, extending to the facilities in which such education is taught and such care is provided.

I would like to explain briefly the contributions the pharmaceutical industry makes in the fields of medical education and research, and also to give this committee some facts concerning the amazing progress in this country due in greatest measure to revolutionary changes which have taken place in this industry. Both of these give evidence of our interest in the bill now under consideration:

> More than $206 million in 1960, and more than $227 million in 1961 (estimated) in cost were incurred for all human ethical drug or medical research and development. Of this amount during these 2 years, by contracts or grants, $9.5 million went to medical schools, $3.5 million to other academic institutions, $9 million to hospitals and clinics, and $4.8 million to nonprofit research laboratories.
>
> In 1955 a total of 480 medical school fellowships or scholarships were supported by the pharmaceutical manufacturing industry. (See also "Medical School Inquiry," staff report of this committee, 85th Cong., 1st sess., pp. 356 and 357.)
>
> The National Health Education Committee has estimated that the decline in mortality rates since 1937 adds almost $9 billion to the national income every year.
>
> Millions of people have been freed from handicaps of disease to perform productive and useful work: People buy antibiotics and are freed from long hospitalization with pneumonia; they buy polio vaccine and escape iron lungs and braces.
>
> The decline in the number of mental hospital patients below the number predicted 5 years ago for 1960 has saved approximately $1.8 billion in institutional construction costs.

Witnesses before this committee have already discussed the need for additional medical schools and for the renovation or replacement of existing ones. They have also discussed facility obsolescence which results from great advances in medical science. They have presented to this committee extensive data on the dimensions of these needs. Because we can add little, if anything, to what they have said on these needs, we only offer our strong belief that the adequacy of the physical facilities of our medical schools should be given increasing attention.

We feel that this program should not contain any factor calling for the dilution of American medical education. On the contrary, the availability of Federal matching grants for the construction, rehabilitation, or replacement of medical schools should, in any legislation enacted by this Congress, give due consideration to all factors implicit in maintaining the present high standards of medical education. We would also urge that this program be so designed as to give primary consideration to the construction of new medical schools in those States which now have none.

We have confined our comments to the matching grant construction portion of the bill as we believe that this proposed program should be given the opportunity to demonstrate what it can do and thus permit a determination to be made as to what else might be needed, if anything, before other programs in this area are initiated.

It would be deeply appreciated if you would make this letter a part of the record of your committee's hearings on H.R. 4999.

Sincerely yours,

AUSTIN SMITH, M.D.

FUND FOR THE ADVANCEMENT OF PODIATRY-CHIROPODY EDUCATION,
Washington, D.C., February 1, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

HONORABLE SIR: Enclosed you will find a statement from the Fund for the Advancement of Podiatry-Chiropody Education on bill H.R. 4999.

We respectfully request that it be included in the official record of the hearing held on said bill on January 26, 1962.

Very truly yours,

Dr. HARRY HOROWITZ, *President.*

FUND FOR THE ADVANCEMENT OF PODIATRY-CHIROPODY EDUCATION,

February 1, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

HONORABLE SIR: We note, support, and applaud the intent of H.R. 4999 which would increase the opportunities for training physicians, dentists, osteopaths, and professional public health personnel. These increased opportunities not only lie in the areas of providing moneys for the building of new schools and for the enlarging of present facilities for each of the disciplines mentioned, but also for creating scholarships in the respective professions listed.

However, we note an omission in bill H.R. 4999. Assistance for new schools of podiatry or enlargement of present schools of podiatry and the providing of scholarships for the undergraduate students in podiatry schools are not included in said bill.

The podiatrist—the foot specialist—together with his medical, osteopathic and dental colleagues are the only individuals licensed by each of our States to diagnose, treat, surgically and medically, for the human body.

The numerous reports emanating from various sources including those of agencies of the Federal Government, the associations representing the professions in the healing arts as medicine, dentistry, osteopathy, and podiatry all agree that increased practitioners in their respective profession will be needed in the immediate future. The continued increase of our population, the proportional increase of our "aged" population with its specific medical needs to maintain healthy individuals and collectively to insure a healthy nation must of necessity depend on healing professions to provide the trained personnel ministering to the needs of our peoples.

To meet the increased need for health services, the facilities of established schools of all the health disciplines must be enlarged, brought and kept up to date. Add to this, the need of establishing new halls of learning to accommodate the increased numbers needed in each profession. The facilities referred to, not only includes the physical aspects of a teaching institution, such as a building or buildings, not only the equipping of these areas, too, but also to provide the necessary teaching personnel who will impart the instruction and direct the undergraduate student.

Four years ago, after studying the problems confronting the profession of podiatry we concluded that large sums of moneys must be raised if the podiatry profession was to continue to fulfill and expand its responsibilities to the public's health. To attempt to do this a Fund for the Advancement of Podiatry-Chiropody Education was founded. Being active these past years, moneys have been contributed to our fund by members of the podiatry profession, the public and commercial firms. During this time, the fund has made grants to three of our colleges. The use of these grants varied from providing necessary moneys to purchase sterilizing equipment for a new foot hospital, to the providing necessary moneys in meeting the salaries of some faculty members. Grants were made to California Podiatry College, Illinois College of Chiropody & Foot Surgery, and Chicago College of Chiropody.

In 1960–61 a grant was made to secure the employment of a group of respected educators to survey podiatry schools and the accrediting agency of these schools—the Council of Education of the American Podiatry Association—to report their findings as to the needs of these schools and this council and to guide them to further fulfill their responsibilities in the public interest. The report of this commission is enclosed.

We of the Fund for the Advancement of Podiatry-Chiropody Education have stimulated the giving of over $106,000 toward podiatry education in the short time of its existence. Our organization has also provided the climate whereby the professional society representing the podiatrists of the country have voluntarily assessed themselves to provide at least $46,000 annually to the podiatry colleges as grants on a matching basis for teaching and research needs.

While the fund has been successful, to a degree, in raising moneys, these moneys fall far short of the necessary funds that will be needed if the schools training podiatrists are to provide the exposures and courses that these foot specialists must have to practice their profession. The general public, the armed services, the aged, the veteran, and his family, etc., are all dependent on this group of foot specialists to minister to their foot needs.

The moneys necessary to educate men and women in the healing professions far exceed those moneys collected through tuition alone.

Reference is made to a sample listing of various Federal and State departments and agencies that recognize and/or provide for the services of the podiatrist, i.e.:

(*a*) Higher education, Department of Health, Education, and Welfare.
(*b*) Department of Labor, occupation titles, "Occupation Handbook."
(*c*) Armed Forces.
(*d*) Veterans' Administration.
(*e*) Federal Employees Health Insurance Act.
(*f*) U.S. Public Health Service.
(*g*) Department of Welfare—on State levels.
(*h*) Workmens compensation departments on State levels.
(*i*) Department of hospitals—on local and State levels.
(*j*) Departments on education—State, city, and local.
(*k*) Office of Civilian defense.
(*l*) Health insurance programs sponsored by nonprofit Blue Cross-Blue Shield types of companies, regular insurance companies, labor, and/or management insurance programs.

If H.R. 4999 is not enacted immediately the future health needs of our expanding and of our aging populations will not be met.

We therefore, respectfully request, that in your consideration of bill H.R. 4999 that the wording be amended to include podiatry schools and undergraduate podiatry students together with medical, dental, osteopath, and public health schools and undergraduate students as potential participants in the program provided in said bill.

Very truly yours,

DR. HARRY HOROWITZ, *President.*

MARQUETTE UNIVERSITY,
SCHOOL OF DENTISTRY,
Milwaukee, Wis., February 5, 1962.

Hon. OREN HARRIS,
U.S. House of Representatives, Washington, D.C.

DEAR REPRESENTATIVE HARRIS: I wish to urge your support of H.R. 4999 now pending in Congress. We in dental education are well aware of the immediate need for funds to provide additional and improved teaching and research facilities and to help meet the already high and steadily rising costs of dental education.

In 1957–58, Marquette University built an addition to its school of dentistry. This addition gave us much-needed clinical and classroom space; however, extensive remodeling is urgently required in the old building, and we must expand our research facilities. The equipment in our main clinic has been in steady use since the school of dentistry was built in 1922. The 155 dental units and chairs must be replaced, and this will also entail new plumbing, new wiring and new gas and air outlets. This 40-year-old dental equipment curtails our teaching of high speed techniques so important in modern dentistry. We estimate that the

complete remodeling project—units, chairs, plumbing, electricity, etc.—would cost approximately $500,000. We are also badly in need of space for expanding research activities. We have struggled along with the space we have, but additional facilities are necessary if we are to carry on with research projects so important to the health and welfare of the American people.

Marquette University School of Dentistry, as the only dental school in the State of Wisconsin, is primarily interested in providing the best possible dental education and thereby dental care for the citizens of this State and the other States in which our graduates locate. As a private school with limited income, we need help. Your support of H.R. 4999 will be of great assistance to us.

With kind regards, I am,

Sincerely yours,

L. C. ALEXANDER, D.D.S., *Dean.*

THE UNIVERSITY OF KANSAS CITY,
SCHOOL OF DENTISTRY,
Kansas City, Mo., February 3, 1962.

Hon. OREN HARRIS,
House of Representatives,
Washington, D.C.

DEAR MR. HARRIS: I am taking the liberty of writing to you again concerning the need for Federal support of dental education in our area of the country through construction, grants, and other means. As you probably are aware, the University of Kansas City assumes some responsibility for teaching dentistry and to residents from the State of Arkansas. This year, we have 18 residents of Arkansas in the School of Dentistry at the University of Kansas City.

Our School of Dentistry here at the University of Kansas City is part of an independent university not supported by State or municipal funds. We do receive over $200,000 per year in Federal grants for research and training programs which contribute to our overall dental educational program. As a result of our geographic position (there are no other schools from here until one reaches California, Oregon, or Washington to the west or Texas to the south and Nebraska to the north) we have had thrust upon us responsibility for educating dental students from the Midwest, the intermountain area, and the Southwest. Our present total enrollment of 546 students come from 27 States and 3 foreign allies. There are many dental schools in the United States which are in a similar situation as independent schools with broad responsibilities. If we, and other schools in our position, are to continue our present roles, it will be necessary for us to have new facilities in the future as well as for some additional schools to be built in certain areas of the country.

We have been conducting a campaign among our alumni and to date have contributions and pledges of approximately $425,000 toward a new building. Since we cannot expect support for capital improvement from the States from which students are drawn, we have no other resources except the Federal Government when we seek funds for our building expansion. An adequate dental building will cost from $3 to $5 million even with the equipment we have available in our present facilities.

While other features of H.R. 4999 are important, I do feel that the paramount one is that of construction, and I believe that matching grants on a 50-50 basis will be inadequate in many areas.

I am making this plea to you because I know of your interest in this bill and in the support of dental education. If there is any information which you would like me to supply to you in the field of dental education in this area, or in general, I should be most happy to do so.

Sincerely,

HAMILTON B. G. ROBINSON, *Dean.*

THE UNIVERSITY OF NEBRASKA,
COLLEGE OF DENTISTRY,
Lincoln, Nebr., February 5, 1962.

Representative OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
U.S. House of Representatives,
Washington, D.C.

DEAR MR. HARRIS: I am enclosing copies of letters I have written to Representative Phil Weaver of Nebraska urging him to support and vote for H.R. 4999.

I respectfully request that you, as chairman of the committee, include my letters within the hearing record of H.R. 4999.

Sincerely yours,

RALPH L. IRELAND, *Dean.*

THE UNIVERSITY OF NEBRASKA,
Lincoln, Nebr., February 5, 1962.

Hon. PHIL WEAVER,
House of Representatives,
Washington, D.C.

DEAR MR. WEAVER: It is my understanding that H.R. 4999 is now pending in Congress. You will recall that I wrote you on June 27, 1961, and outlined the reasons why the enactment of this bill was so important to dentistry in general and to the welfare of the University of Nebraska College of Dentistry. Because my letter of June 27 stated the specific needs of our college of dentistry and outlined the programs which the college could institute if this bill is enacted, and because you may have misplaced this letter I am enclosing another copy.

I sincerely hope that you and the other Representatives from Nebraska will support and vote for H.R. 4999.

Sincerely yours,

RALPH L. IRELAND, *Dean.*

JUNE 27, 1961.

Hon. PHIL WEAVER,
House of Representatives,
Washington, D.C.

DEAR MR. WEAVER: I am writing this letter to request your assistance and support of H.R. 4999. This bill is identical to S. 1072.

I should like to tell you as I told Senators Hruska and Curtis some of the problems which dental education is facing in Nebraska and the reasons why the passage of this bill is so important in the future welfare of the University of Nebraska College of Dentistry.

The college of dentistry has been housed in Andrews Hall since 1928. At present, the college occupies the third floor, approximately two-fifths of the second floor and a small portion of the basement. The departments of English and classics occupy the remainder of the building. To the best of my knowledge, we are the only dental school in the United States that does not have an entire building of its own.

For the 133 students in our four classes, we have only two classrooms and two laboratories. The equipment in our one main clinic is 33 years old. It is practically impossible for our staff to teach modern operative procedures with such outdated equipment.

Because of our limited space and faculty, we are able to accept only 34 students each year in our freshman class. In this connection, the impact which the expected population increase will have on the practice of dentistry in the United States and particularly in Nebraska is of vital importance. The reports which come from the Division of Dental Resources of the U.S. Public Health Service indicate that the dental schools in the United States presently are not graduating enough dentists to meet future requirements. In order to regain even the present dentist-population ratio by 1975, dental schools must, by 1970, be graduating 2,700 more dentists annually than are now in prospect. The U.S. Public Health Service also estimates that by 1975 there will be a deficit of more than 300 dentists in Nebraska. In order to forestall this deficit and maintain the ratio of dentists to population that currently exists, the University of Nebraska College of Dentistry should now have a minimum class size of 64 and beyond 1975 the class size should be increased to 75.

In addition to the 4-year course of study for the D.D.S. degree, the college of dentistry offers 2-year graduate programs in orthodontics, pedodontics, and periodontics. Our facilities permit us to accept a limited number of graduate students each year (three in each area). This past year we had over 75 applications alone for the graduate orthodontic program.

The programs which the college of dentistry plans to institute just as soon as our physical plant is expanded and our staff increased are (1) increase the undergraduate enrollment, (2) increase the number and effectiveness of short

postgraduate courses for practicing dentists, (3) add several graduate courses to those we now offer, (4) offer a course of study for dental hygienists (there is great demand by many young women in our State and by the practicing dentists to institute such a course), and (5) increase our research activity.

Tremendous changes have taken place in dental education in the past 25 years. The University of Nebraska College of Dentistry has attempted to keep pace with these changing concepts. However, lack of space and faculty have prevented us from moving ahead and initiating some essential programs and today the college of dentistry finds itself in the position where improvement is needed for our program to attain a quality level consistent with the college's potential as contrasted with meeting more minimum standards.

I am convinced that the only way we will be able to accomplish our objectives is to receive outside financial assistance. Therefore, I urge you to support and vote for H.R. 4999 so that the college of dentistry may realize its potential and the people of Nebraska may continue to have the best of dental care.

Sincerely yours,

RALPH L. IRELAND, *Dean.*

UNIVERSITY OF CALIFORNIA,
SAN FRANCISCO MEDICAL CENTER,
SCHOOL OF DENTISTRY,
February 14, 1962.

Hon. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

MY DEAR MR. HARRIS: This letter is written in relation to H.R. 4999 now in Congress. This bill will provide Federal funds for construction of teaching facilities in the health sciences and strengthen the health sciences generally. My concern is more specifically directed toward dental education and the need for dental manpower to meet the increasing population growth and the increasing percentage of that population that is requesting dental service.

My qualifications and background to write on this subject are as follows: I am dean of the School of Dentistry, University of California, vice provost of the San Francisco Medical Center, a commissioner in the Western Interstate Commission on Higher Education, a former member of the Council on Dental Education of the American Dental Association, a commissioner on the recently completed "Survey of Dentistry."

Most dental manpower surveys stress the growing population and by simple arithmetic determine the number of dentists, based on dentist-population ratios today, that will be needed to service the increased number of people. An important point that is overlooked is the increasing demand of that increasing population for dentistry. For example: In 1940 about 25 percent of the population requested dental service in any 1 year. This percentage of request has now risen to well over 40 percent of the population. The reasons are several—such as improved economic level of the population, higher level of education, and improved health education, and programs of the dental profession, and the various public health groups. All of this combines to develop a greater need for more dentists.

Dental education and facilities are costly. Minimum figures will show that a dental student required 200 net square feet of space. In other words, a school with 400 dental students will need about 80,000 net square feet. Construction and equipment will vary in different parts of the country, but taking $40 to $50 per square foot (net) one can readily come up with a cost of from $3,500,000 to over $4 million for a school of dentistry.

This sort of money is simply not raised by private donations and foundations particularly in this day and age. Even the populous States faced with rising costs of general education are in trouble in providing health science facilities.

Of particular interest to the citizens of the State of California are the following figures that we compiled at the school of dentistry in 1960.

Out of 25 California applicants to study dentistry: 2½ will study at the University of California; 6 will enter one of the other three California dental schools; 2½ will be admitted to schools out of State; 13¾ will not be admitted to any school.

As regards the matter of student support, I do not believe I have to go into any great detail to point out what is generally accepted that the courses in the health sciences are the most expensive among the university discipline and have the poorest support in the way of loans, grants-in-aid, and scholarships. It has reached a point where the most important qualification to study medicine or dentistry is the ability of the student to pay the bill. This is wrong as the qualities of motivation, intelligence, integrity, kindliness, and others are the important ones.

These are some of the important reasons why I believe H.R. 4999 should be given favorable consideration.

Sincerely yours,

WILLARD C. FLEMING, *Dean.*

THE UNIVERSITY OF TENNESSEE,
Memphis, Tenn., February 15, 1962.

Hon. KENNETH A. ROBERTS,
Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D.C.

DEAR MR. ROBERTS: We commend you for your strong support of H.R. 4999. We also appreciate your interest in previous legislation designed to improve health care.

The number of health workers per population in our region is a cause for great concern by each of us. In Tennessee, as in Alabama, medical education will profit greatly by the provisions of H.R. 4999.

Sincerely yours,

RUTH NEIL MURRY, R.N., *Dean.*

(Whereupon, at 12 noon, the committee recessed, subject to the call of the Chair.)

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